

ENVIRONMENTAL ASSESSMENT BOARD



ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARINGS

VOLUME: 49

DATE: Thursday, August 22, 1991

BEFORE:

HON. MR. JUSTICE E. SAUNDERS Chairman


DR. G. CONNELL Member

MS. G. PATTERSON Member

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ENVIRONMENTAL ASSESSMENT BOARD
ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARING

IN THE MATTER OF the Environmental Assessment Act,
R.S.O. 1980, c. 140, as amended, and Regulations
thereunder;

AND IN THE MATTER OF an undertaking by Ontario Hydro
consisting of a program in respect of activities
associated with meeting future electricity
requirements in Ontario.

Held on the 5th Floor, 2200
Yonge Street, Toronto, Ontario,
on Thursday, the 22nd day of August,
1991, commencing at 10:00 a.m.

VOLUME 49

B E F O R E :

THE HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

S T A F F :

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1 ---Upon commencing at 10:02 a.m.

2 THE CHAIRMAN: Be seated, please.

3 Dr. Connell has a few more questions.

4 PAUL JONATHAN BURKE,
5 AMIR SHALABY,
6 JULIA MARION MITCHELL,
7 MARION ELIZABETH FRASER,
8 LYN DOUGLAS WILSON,
9 WILLIAM OSBORNE HARPER; Resumed

10 DR. CONNELL: I would just like to
11 address two or three questions to the fuel switching
12 program in broad terms. I take it that members of the
13 panel in general think that this is a desirable
14 measure, that it amplifies the scope of demand
15 management.

16 MR. WILSON: Yes, that's correct.

17 DR. CONNELL: Can I infer from that that
18 you would think that the constraints that were in place
19 before that measure was introduced were perhaps rather
20 arbitrarily confining?

21 MR. WILSON: I don't think I would
22 characterize them as arbitrarily confining. They
23 reflect a view of the role of the electric utility in
24 Ontario which has changed over the decade of the 80s.
25 Certainly as we went through the oil crisis of the
1970s, late 70s, the Power Corporation Act was changed
and a number of amendments were introduced to make

1 energy conservation one of the purposes of Ontario
2 Hydro.

3 And some of the language in the Act was
4 inserted in 1982 which encouraged and enabled Ontario
5 Hydro to pursue fuel switching where switching was from
6 oil to electricity. And the government of the day
7 evidently decided that the gas companies could take
8 care of switches from oil to natural gas and they kept
9 us out of that business. Obviously they have a
10 different view today.

11 DR. CONNELL: Can you imagine any further
12 measures of that character that might be taken that
13 would make your demand management program even more
14 effective or which might provide broader economic and
15 environmental benefits? In a sense you are in the gas
16 business now but simply trading off gas and electric
17 power options, but why not promote the use of natural
18 gas in vehicles for example?

19 MR. BURKE: I think in broad terms the
20 fuel switching option could be generalized in future.
21 But I think as a category it probably does complete the
22 range of demand management techniques that Hydro really
23 would have at its disposal.

24 I think you are suggesting that in future
25 were a situation to arise where large electric loads

1 seem to be upon the point of materializing because of a
2 switch perhaps to electric vehicles, we might in fact
3 encourage non-oil, non-electric vehicles and gas or
4 methanol or some other fuel, I think that's an issue
5 that is down the road. And it probably would depend on
6 the economics of the options at the time.

7 I think what we have is a package between
8 efficiency improvement and fuel switching that, subject
9 to economic tests, gives us all the opportunities we
10 require to optimize both electricity and energy use in
11 Ontario, what we will need though is a lot of direction
12 from government in the application of these tests when
13 they involve other fuels.

14 DR. CONNELL: I think I am probably going
15 even more broadly than that and I am getting on to
16 political turf. If you prefer to stay off that turf,
17 please do so. But we are looking at an expenditure of
18 which I think you said the upper limit would be about
19 \$8-billion between now and the year 2000. Am I
20 correct?

21 MR. WILSON: The figure was \$6-billion.

22 DR. CONNELL: \$6-billion, thank you.

23 If one imagined a set of desirable
24 economic and environmental goals in relation to energy
25 in the province so far as I know this is the only

1 substantial fund that is dedicated to those kinds of
2 purposes. It may well be that many of the desirable
3 targets lie within the purview that is defined by your
4 mandate, but equally there may be some that lie outside
5 it. That seems to me to be conceivable and it forces
6 me really to ask the question whether we can be assured
7 that that \$6-billion expenditure is, in fact, being
8 used in the optimal way. It may well be within the
9 limitations which you face, but in the broader scene it
10 may not be.

11 MR. BURKE: I think my only comment would
12 be that the \$6-billion is an expenditure by Ontario
13 Hydro and I think there is nothing that precludes the
14 Ontario Government from investing heavily in
15 electricity efficiency and energy efficiency itself, if
16 it should so choose. But the sort of expenditures we
17 are talking about are expenditures that Hydro will --
18 costs Hydro will incur in order to encourage the
19 efficiency of electricity use in Ontario. Beyond that,
20 I really can't speak for whether more money should be
21 made available elsewhere and whether it could be wisely
22 used.

23 DR. CONNELL: I think my only
24 justification for raising that question is that it is
25 indeed the government that - and I will use the word

1 perhaps rather arbitrarily - defines the perimeter
2 within which those Hydro expenditures can be made.

3 MR. BURKE: I think Hydro's position has
4 been that it has the expertise and the resources and so
5 on to handle large scale programs of this sort. So
6 far, the application has been to electrical efficiency
7 improvement. Now we are embarking on some fuel
8 switching programs and I suppose the resources remain
9 there for the government to direct, but we certainly
10 are not aware of other avenues at this point.

11 DR. CONNELL: I would like to turn
12 briefly to municipal utilities. I think several of you
13 emphasized the importance of that relationship in
14 developing demand management programs, but I noted a
15 few suggestions of problems or difficulties in
16 connection with Exhibit 260, page 58.

17 There was I think a reference - and I
18 forget which panelist made the reference - to the
19 difficulty in marketing interruptible power programs to
20 municipal utility companies. I think Ms. Fraser - and
21 here I have a page reference, Volume 47, page 8558 -
22 made a reference to water heaters and plenum heaters in
23 relation to municipal utilities.

24 And again on page 8624, Volume 48. Again
25 I think this was Ms. Fraser, describing utilities in

1 [10:13 a.m.] They have a very small customer base and
2 they rely on us to carry the energy-efficient message
3 to their customers, and we certainly -- we do that and
4 work with them.

5 Some of the things that are happening
6 now, for instance, down in our western region, is
7 municipal utilities are getting together and pooling
8 resources both for hiring contractors to do, for
9 instance, the water heater tune-up program, or for
10 purchasing the various supplies and things like that.

11 I think there could be more activities
12 like that where, you know, we can help sort of to bring
13 them together to work on a cooperative basis among each
14 other, which, you know, would be very different from
15 the way in which we would work, for instance, with the
16 Toronto Hydro or Scarborough Hydro, which is, you know,
17 quite self-sufficient.

18 Certainly in the past year we have seen a
19 tremendous ground swell in terms of larger utilities
20 adding energy management service staff and that kind of
21 thing. So that is going to certainly help us deliver
22 demand management.

23 But, I wouldn't say that the
24 relationship, you know, all the time is 100 per cent
25 perfect and there are still lots of things to work out

1 and we are negotiating right now with the top 30
2 utilities to sort of develop a memorandum of
3 understanding on how we are going to work together. We
4 hope to take that model of relationship building down
5 to sort of the medium-sized utilities and so on.

6 DR. CONNELL: If there were some
7 authority, not necessarily Ontario Hydro, but perhaps
8 some other authority that could ensure cooperation
9 amongst utilities, might that be advantageous?

10 MS. FRASER: Well, I guess I can't really
11 sort of envision what that authority might be. We have
12 a very close working relationship with utilities on the
13 supply side and I think it is really a matter of
14 working out the details of how it is going to work on
15 the demand side.

16 Quite honestly, I haven't really
17 considered that broader context. We are looking at the
18 potential. And one of the things that is being
19 discussed in the large utility task force that was set
20 up is the mechanism for compensating municipal
21 utilities for some of the costs involved in delivery of
22 demand management, and I think that will make a big
23 difference.

24 MR. HARPER: Excuse me, maybe if I could
25 just correct an impression I may have left during

1 yesterday. I didn't mean in any way to suggest that
2 municipal utilities were viewed as a barrier when we
3 were marketing interruptible power.

4 I think as I said in my direct, it is a
5 rate form that is best marketed through direct contact
6 with a customer. And so for our own customers, they
7 are ones we have been performing our customer service
8 function for ever since we started offering
9 interruptible power say 30 years ago.

10 We haven't been involved to the same
11 extent in working with municipal utilities to work with
12 their large users up until recently, as Ms. Fraser
13 outlined in her direct evidence.

14 We do have some large users that are
15 interruptible customers and that is with the
16 cooperation of other municipal utilities. I think it
17 is an opportunity that we now recognize we are going to
18 try to take advantage of.

19 DR. CONNELL: That is a helpful
20 clarification, thank you.

21 I have been struggling with the problem
22 of price and I am sorry, again, I can't recall who --
23 was it Mr. Harper who was addressing price?

24 MR. HARPER: Yes.

25 DR. CONNELL: In the total customer cost

1 test, price doesn't really enter into it, except
2 insofar as it parallels avoided cost. But obviously
3 price is a factor in implementation and penetration of
4 demand management programs.

5 I noted Ms. Fraser's reference to the
6 participant cost test and, of course, I think you said
7 that wasn't a hurdle but rather a design consideration.
8 Mr. Harper made clear that rates can influence behavior
9 of energy users.

10 I think what I would like to ask is this:
11 Could manipulation of price be considered as a part of
12 overall strategy to enable better penetration of some
13 demand management program?

14 MR. HARPER: I think the answer to that
15 is yes. And if you look particularly at the plan that
16 we have in, say, the load shifting targets that we have
17 in place and the manipulation of price basically
18 through time-of-use rates to try and encourage
19 customers to shift from those peak to off-peak periods,
20 that is clearly a way that you can manipulate price to
21 encourage customers to shift their loads and benefit
22 both themselves and the utility in terms of system
23 avoided costs.

24 DR. CONNELL: Could you conceivably go
25 even farther, and that is, for a time, exceed the

1 revenue requirement, that is with certain types of rate
2 increases in order to get early adoption of demand
3 management programs assuming over time you get evening
4 out? That is more a question for the Ontario Energy
5 Board, I suppose.

6 MR. HARPER: Maybe the Ontario Energy
7 Board and also perhaps the Ontario government in terms
8 of the constraints within which we work in terms of
9 setting our overall revenue requirement are specified
10 by the Power Corporation Act.

11 MR. WILSON: Dr. Connell, just on that
12 point, our Chair has outlined his expectations for
13 electricity price increases over the next two or three
14 years and they look like double digit increases for the
15 next three years.

16 That sends - unfortunate in my view - but
17 a very powerful message to people about what their
18 costs are going to be because these prices are going
19 up. And I find it difficult to visualize increasing
20 that even further to get a bigger shot, but that is
21 conceivable.

22 I think people are going to experience a
23 big enough shock as it is when they add GST as they
24 have this year to their residential rates. And the
25 wholesale prices and retail prices are going to be

1 rising steeply as well.

2 There is quite a strong signal going out
3 there right now, quite unintended as a demand
4 management measure, but I think it will have demand
5 management consequences.

6 DR. CONNELL: So those projections are
7 based purely on the revenue requirement?

8 MR. WILSON: That's correct.

9 DR. CONNELL: I would like to move on to
10 the problem of timing, and Mr. Burke and others
11 referred to the problem of the high cost of premature
12 replacement of existing equipment. It seems to me that
13 there is a parallel problem on the other side, which is
14 the high cost of, what I might call, the premature
15 provision of major supply.

16 I suppose if the comprehensive
17 replacement of all existing refrigerators, to choose a
18 favourite example, might lead to, say, a three-year
19 deferral of a new major supply option, could I just put
20 the question to you: Is that kind of tradeoff fully
21 exposed and weighed in the total customer cost test?

22 MR. BURKE: The total customer cost test
23 as we have applied it generally looks at the
24 incremental cost of the efficiency improvement measure.
25 And I suppose we could push the test further to ask

1 whether, for instance, to use refrigerators, there was
2 a point in time maybe if refrigerators had a typical
3 physical life of 20 years, that if they were replaced
4 after 15 years, would that still be economic from the
5 point of view of the customer?

6 We would have to do a little market
7 research to see whether customers value their
8 refrigerators quite as an accountant might.

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1 [10:22 a.m.] But, nonetheless, up to now we have
2 essentially assumed that the opportunity arises upon
3 replacement and that it would, in practice, be very --
4 as it's not economic to replace all refrigerators, that
5 we wouldn't get into the business of separating out
6 slightly older ones from newer ones and base our
7 economic analysis on a portion of the existing stock of
8 refrigerators, to take that case.

9 I think that we have tried to use
10 expected lives of equipment that are typical but
11 clearly, especially in the case of refrigerators, there
12 are many refrigerators out there that exceed 20 year
13 lifespans and people assign value to them in excess
14 after they are 20 years old. A large portion of the
15 secondary refrigerators in Ontario and 30 per cent of
16 the refrigerator stock, for instance, is in that
17 category, are much older refrigerators that are the
18 second refrigerator in the house, so that...

19 DR. CONNELL: I don't want to get drawn
20 into detail on refrigerators.

21 I think what I really mean to ask you is
22 if a collection of fairly costly demand management
23 options could give you early savings of perhaps a
24 couple of thousand megawatts and could allow you to
25 defer for a few years the date of a new major supply

1 option, that presumably would to show up in your
2 avoided cost.

3 MR. BURKE: Oh, yes, definitely. And I
4 think all I was trying to indicate was that there might
5 be a tiny little bit that we could nibble away here at.
6 But essentially, the major opportunities have all been
7 captured in the way that we have described this and
8 there is very little left that would be economic to
9 undertake given the screening as we are doing it.

10 I thought you were wondering whether we
11 had absolutely decided that there was no instance of a
12 case where you could retire some equipment early. At
13 the margin there is a little bit of opportunity there.
14 But in general, the way the total customer cost test is
15 applied, we have taken into account all of the
16 opportunities that are available economically and the
17 time path over which they are available.

18 DR. CONNELL: I take it you haven't
19 identified any hinge points over the next decade or so
20 or where a major supply option is hanging in balance
21 depending on the marginal effectiveness of demand
22 management programs.

23 MR. BURKE: Well, I think the
24 optimization of supply and demand is a dynamic story
25 right now because of the fact that we are changing our

1 numbers.

2 In general, the demand side options
3 reduce the load forecast before we consider what the
4 supply side requirements are.

5 DR. CONNELL: No doubt we will come back
6 to this at a later stage.

7 We have had several allusions to research
8 and development in connection with demand management,
9 and this matter did actually come up in Panel 3, the
10 reference is Volume 42, page 7600, and there was a
11 transcript undertaking, 183.30, which I think has not
12 been filed yet, I would just like to put a footnote on
13 it. There were several references to extensive market
14 research, and in the undertaking I would like to have a
15 distinction made between the technically oriented R&D
16 and the customer oriented market research, if that's
17 possible.

18 MR. B. CAMPBELL: We will make sure that
19 that's done.

20 DR. CONNELL: Thank you.

21 I wanted to ask, I think this was Mr.
22 Wilson's point. I think he referred earlier on in his
23 testimony to the diversion of the nuclear
24 pre-engineering cost to demand management. May I ask,
25 in light of your more recent analysis, if you think

1 that was a good idea?

2 MR. WILSON: By increasing the funds
3 available to demand management last November, we were
4 able to take advantage of some opportunities which we
5 previously hadn't anticipated having, and there was a
6 conversion opportunity and money to work with that
7 allowed us to move much more quickly than we thought we
8 could. There were a number of initiatives that were
9 identified and some of which are now underway and
10 others are still in the final design stages.

11 By and large, I think that the demand
12 management effort has been able to, and will be able
13 to, make effective use of those funds.

14 DR. CONNELL: Has anyone in the
15 Corporation tried to compare nuclear pre-engineering's
16 demand management by a net present value test or any
17 other test?

18 MR. WILSON: Well, perhaps Dr. Shalaby
19 would know that, I don't.

20 MR. SHALABY: I don't think we did any
21 net present value tests, but some studies we have done
22 in the past would indicate that losing lead time on
23 major supply is fairly costly and can impact negatively
24 on the flexibility in the future. So, losing time in
25 getting ready for a major supply option could, if

1 demand increases at a higher load level, for example,
2 become a very costly lost opportunity. But I don't
3 know that anybody has done any calculations to show
4 whether that money is better spent one way or the
5 other.

6 DR. CONNELL: Thank you.

7 That is all my questions, Mr. Chairman.

8 THE CHAIRMAN: Ms. Couban?

9 MR. D. POCH: Mr. Chairman, I am
10 wondering before Ms. Couban begins cross, Dr. Connell
11 in his questions raised, I think, an important concern
12 for us all with his question with respect to hinge
13 points through the decade, for example, where
14 commitments will have to be made or not depending on
15 how the demand management program goes. We have seen
16 announced a major change in Hydro's plans in terms of
17 fuel switching and the assumptions with respect to
18 standards. It is my assumption that that has moved
19 projected commitment dates for supply that is in the
20 plan, and we have yet to hear if it has moved any past
21 the 5-year date, the magic date that Hydro has limited
22 its request for approvals from you to, that is supply
23 projects for which approvals will be required within
24 five years. Maybe it hasn't changed any, but I think
25 it would be helpful to us all in this cross-examination

1 to know if we are there or near there and we wouldn't
2 want to have to wait until Christmas to find out.

3 MR. B. CAMPBELL: Well, I am sympathetic
4 to my friend's request.

5 This is obviously a question that's going
6 to have to be addressed, but we are yet in no position
7 to address it.

8 These people have done an enormous amount
9 work to get us this far in this panel, and turning that
10 into an integrated demand supply rebalancing is a task
11 that is being undertaken but is certainly not yet
12 complete.

13 I don't think we are yet in any position,
14 we certainly are in no position to promise it anywhere
15 near this panel, and it may well be that it arrives in
16 Christmas wrapping.

17 We are aware that this will be a matter
18 of interest to people. We have made it clear, I
19 believe there has been some discussion from times very
20 shortly after the announcement of the nuclear
21 moratorium that, for instance, the CANDU A date, simply
22 by that measure, has been extended to, I believe, the
23 figure is 2007 we see as the earliest in-service date.

24
25 ...

1 [10:32 a.m.] With respect to the approvals generally,
2 the five-year horizon that Mr. Poch -- the way in which
3 the approvals were defined was a five-year horizon from
4 the date of an approval being received, should one be
5 received, from these proceedings after appeals. And of
6 course that date itself now has been a bit of a moving
7 target.

8 We do expect, as I say, to have to
9 address this matter, but we are just in no position to
10 do it now. I expect that in the course of things the
11 first time in terms of, really, in the panel evidence
12 that, we couldn't really proceed unless we had a
13 sensible answer to that, would probably be Panel 10. I
14 expect certainly that before that time, we will not
15 want to leave it sort of until the last minute before
16 panel 10. We will want to deal with it before that
17 time because I anticipate, on the present schedule,
18 Panel 10 would be well into next year.

19 Beyond that, all I can say is that we are
20 well aware of the need to address this issue. It is
21 not a simple issue. This is not the only area in which
22 changes in policy and environment have occurred, and we
23 expect to -- and certainly it is not a useful task to
24 simply speculate incrementally on this. We intend to
25 do this in a comprehensive way.

1 And we are well aware of the need to do
2 it. And as I say, the work is under way, but we are
3 not in a position to provide results at this point.

4 MR. D. POCH: Mr. Chairman, let me say
5 that I can certainly sympathize to with my friend and I
6 can appreciate how he doesn't want to apply to you to
7 amend his application, at least more than once.

8 Perhaps some accommodation can be given
9 to us from Ontario Hydro as to what the likely effects
10 will be, and it may not be today I can appreciate that.

11 The difficulty we face is that we are
12 trying to prepare a case to present to you which is an
13 alternative to Hydro's plan. In doing so we are trying
14 to present it in a way which will be useful to you and
15 which will be comparable to whatever the current Hydro
16 plan is that's up for approval.

17 Needless to say, that is a big problem
18 because of the tremendous lead time we face in doing
19 model runs and in benchmarking those runs to a baseline
20 being -- at least one of the base lines being Hydro's
21 proposed plan.

22 The other difficulty we face of course is
23 that this is a very lengthy and expensive hearing and
24 it may be this won't affect my client so much, but it
25 could affect others who are not here today and I am

1 thinking in particular of some of the northern native
2 communities where particular projects are no longer up
3 for approval and people need not participate further.

4 So again I can understand that Mr.
5 Campbell may wish to wait to formally amend an
6 application but it may be possible for him to advise
7 with some certainty that we can safely count on certain
8 aspects being not up for approval at this time.

9 I know he will not have instructions to
10 respond to that at the moment and I am content to leave
11 that simply as a suggestion on the record.

12 MR. B. CAMPBELL: I do wish to respond to
13 that. There is no question of us amending the
14 application. The application by itself in its current
15 form recognizes that planning is not something that
16 you -- that is complete as of a particular date and
17 never changes thereafter. The application is
18 specifically designed and the plan is specifically
19 designed to recognize the fact that there is a need to
20 respond to changed circumstances.

21 That said, I can give the intervenors and
22 this panel absolute assurance that if the Corporation
23 reaches a point where it is not seeking approval or
24 intends not to seek approval for any particular aspect
25 of the undertaking should that happen, should that

1 happen - it's a hypothetical raised by my friend - that
2 that will be immediately communicated both to the
3 intervenors and to this panel. There is no question
4 about that. We understand the difficulties that the
5 intervenors face just because they are exactly the same
6 difficulties that Ontario Hydro faces and we have no
7 wish to make this process any more difficult or
8 protracted than it already is. In fact, our every
9 effort is to go just in the opposite direction.

10 Anyone attending these hearings will know
11 that the kinds of efforts that are being carried out by
12 part of the organization that this panel represents are
13 going to make a difference. They are designed to make
14 a difference. But sometimes exactly what that
15 difference turns into in terms of facilities and so on
16 at the end of the day in timing, this is not an
17 exercise that can be done overnight. And as soon as we
18 have reasonable answers they will be communicated.

19 THE CHAIRMAN: Mr. Poch, I am not sure I
20 quite understood when you opened up what is the
21 significance you attribute to a five-year period.
22 That's what I wasn't quite sure I understood.

23 MR. D. POCH: Well, the application
24 before you is styled such that it requests approvals
25 for those elements of the plan for which approvals to

1 proceed, that is site specific approvals, would be
2 required within five years of your decision becoming
3 final is how I think my friend expressed it.

4 So there are specific facilities,
5 although they may be labelled "CANDU A" and not have a
6 site. Or certainly in the case of hydraulic, as we are
7 well aware, they have a site. That are up for approval
8 in principle. That is, I guess we could in the old
9 jargon we used to speak of the need for which has been
10 accepted by this panel and then the site specific
11 acceptability to be given to another.

12 One assumes that 1500 megawatts defers
13 some of the elements of plan and that some of them may
14 move from that category for where approval is required
15 within five years to the category where approval is not
16 required within five years. And they will still be
17 part of the rationale for the plan that is before you,
18 but they will not be -- approval will not be sought for
19 them potentially. So, that is the sort of fundamental
20 legal line that we are concerned remain defined.

21 THE CHAIRMAN: But in dealing with that
22 in that narrow context, it is, I would think, almost
23 essential to consider broader issues than that.

24 MR. D. POCH: Certainly Hydro is --

25 THE CHAIRMAN: In order to reach the

1 narrow approvals that are sought.

2 MR. D. POCH: Yes, sir. I wasn't
3 suggesting that a vagueness at this point necessarily
4 means we have to put our feet up for a few months.
5 There are planning issues clearly that are umbrella
6 issues that we are all struggling with that will affect
7 all of the elements, whatever that list may be.

8 However, perhaps the concern is best
9 visualized if we take the vantage point of a group that
10 has a particular site being potentially imposed upon
11 them. If that site moves from the within five years to
12 beyond five-year category because of the enhanced and
13 fuel switching and efficiency standards, they can go
14 home. They are not in jeopardy. They may be concerned
15 about the broader issues but not so concerned as to be
16 here for two years.

17 THE CHAIRMAN: Not necessarily. I mean
18 it is very hard to generalize about matters of that
19 kind because I would think just because something may
20 be deferred for two years doesn't necessarily mean that
21 the people concerned with that particular supply option
22 wouldn't still be interested in participating in the
23 hearings.

24 MR. D. POCH: And indeed my client's
25 concern is not of that nature. I was just casting that

1 as an example where it could have a more visible impact
2 for people.

3 But my client's perspective is as we made
4 clear in our opening, we don't believe it is meaningful
5 to talk about the need for any particular project on a
6 25-year horizon. We recognize you need a context
7 within which to plan.

8 The Proponent themselves have recognized
9 that the uncertainties are such that there is no sense
10 seeking commitments and approvals for specific projects
11 where you can't go to that second phase within, or you
12 don't need to go to that second stage, within five
13 years.

14 It is thus that is the fighting ground.
15 How much demand management and therefore how much
16 supply and what particular supply is being approved
17 for, which approval is being sought, is being
18 determined in that context.

19 It thus becomes the focus ultimately of
20 our arguments that we will, as you have obviously
21 recognized, we will be concerned about the broader
22 mechanisms and values and approaches. But the bottom
23 line is: What is Hydro allowed to go ahead with?

24 And our modelling and our evidence will
25 want to have some sharpened edge when it comes to that

1 horizon. It is not what the need of the province is in
2 five years; it is approvals commencing within five
3 years, so that's not a single line in time. It depends
4 on the lead time of the particular technology. But
5 that's where we will try to sharpen our pencils most.

6 THE CHAIRMAN: Thank you.

7 MS. OMATSU: Mr. Chairman, I have spoken,
8 as you know, from time to time on behalf of NAPA, the
9 Nipigon Aboriginal Peoples Alliance. I have not been
10 retained by them for this panel, but I would like to
11 support Mr. Poch in the one point that he raised;
12 namely, just prior to the summer break we were
13 advised - I suppose it would be a rumour of some sort -
14 that Ontario Hydro did not intend to proceed with the
15 Little Jackfish. And as you are aware that is a major
16 part of NAPA's case.

17 What we found happening in the summer,
18 however, was the beginning of a construction of a NUG,
19 which my clients had to go and blockade a road to
20 prevent it happening. And I would very much appreciate
21 some kind of assurance from Mr. Campbell that Little
22 Jackfish is proceeding or is not proceeding and it
23 certainly would be of information to my clients.

24 THE CHAIRMAN: There were two hydraulic
25 projects, if my recollection is correct, that were

1 referred to in the DSP Plan, Exhibit 3, which then
2 Hydro then announced they were not proceeding with and
3 informed the panel of that.

4 And Mr. Campbell had said this morning
5 that if any such decision is made, and I assume that
6 would include Little Jackfish, that immediately that
7 would be communicated to the panel.

8 Not having done so, I think you can rest
9 assured at this moment at least that there has been no
10 change of that nature in Little Jackfish.

11 MS. OMATSU: Yes, I would assume so too.
12 Thank you very much.

13 THE CHAIRMAN: Do you have any further on
14 the five-year -- do you agree with Mr. Poch on the
15 five-year aspect?

16 MR. B. CAMPBELL: Yes, the way the
17 envelope of projects that was to be included in
18 approvals was defined was basically the way he has
19 described. The process is to look at the expected
20 decision date where a formal decision -- and assume
21 that what was included in the approvals was what needed
22 to go forward for applications in the next five years.

23 He has described that accurately and he
24 has described the problem accurately. We are aware of
25 it. We want to respond to it as fast as anybody else

1 wants to respond to it and we will do so. We have no
2 interest at all in holding on to this question any
3 longer than necessary, but we can't do everything all
4 at once instantaneously. Instantaneous replacement is
5 not a feasible option.

6 THE CHAIRMAN: Well, I think the panel
7 is - speaking for myself at least - we are all aware of
8 the extreme difficulties that are contained in what has
9 been said this morning.

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1 [10:48 a.m.] This is not an easy type of process to
2 deal with the kind of problems and issues that arise in
3 this hearing.

4 As I mentioned yesterday, with respect to
5 interrogatories, this is a very dynamic world we live
6 in. Four days of this week we have all opened up to a
7 completely different world and I think that is going to
8 continue and there is going to be changes. And we are,
9 in a sense, asked to make a snapshot at a particular
10 time of how the world looks at that particular moment.
11 This is very difficult and I think we are very aware of
12 that. And it is a problem that we are all going to
13 have to keep in our minds and try and address as best
14 we can.

15 But I don't know that there is much more
16 that I can say at this point, other than to ask, and I
17 am sure this is the case, that when there are
18 fundamental changes made, they will be - in any area -
19 that they will be communicated as soon as it is
20 reasonable to do so. They can't, as Mr. Campbell said,
21 be done overnight.

22 MR. B. CAMPBELL: And you can, I am sure
23 just as the intervenors on their part would, if their
24 cases change, just if the circumstances change in a
25 fundamental way for Ontario Hydro, you have the

1 assurance that that will be brought forward at the
2 earliest reasonable opportunity.

3 MR. GREENSPOON: I will just be a second.
4 From my perspective for Northwatch, we are also
5 concerned with all the hydraulic and transmission and
6 nuclear that goes in the north.

7 It would be my submission that it
8 shouldn't be up to Ontario Hydro to decide what is
9 withdrawn. We have a plan before us and it would be my
10 submission that that should be made in argument.

11 If there is 1500 megawatts or 5,000
12 megawatts floating around, then I think it is up to you
13 to decide what is appropriate, what is needed, what has
14 been shown to be rational and what should be approved.

15 I don't think it is up to Ontario Hydro,
16 with all respect to my friend, to say we are going to
17 pull Little Jackfish or we are going to pull the
18 renovation at Niagara Falls or we are going to do this
19 or that. That is your job.

20 And it is my submission that subject to
21 them pulling two hydraulic proposals before the hearing
22 started - I think that Ragged Chute was one of them or
23 I don't remember the other one - I would have
24 difficulty and I would be prepared at that time when
25 they withdrew to argue this further.

1 THE CHAIRMAN: Well, at least as I read
2 the plan, one of the key notes of the plan is
3 flexibility. There is nothing definite. Look at any
4 plan, it has a certain amount of options in it right
5 the way through to the end. Look at Plan 15 for
6 example. It is the preferred plan, if I can put it
7 that way, of Hydro. There is a tremendous amount of
8 flexibility built into that very plan.

9 MR. GREENSPOON: Well, I would look to
10 the Act rather than the Plan.

11 THE CHAIRMAN: Well, that is an argument
12 that will have to be made at the time.

13 MR. GREENSPOON: That is an argument for
14 another time, yes.

15 THE CHAIRMAN: Thank you.

16 MR. GREENSPOON: Thank you.

17 MR. B. CAMPBELL: It may be argument for
18 another day. There is perhaps one small anecdote that
19 I should deal with. The two high hydraulic projects
20 that were talked about originally in the plan and that
21 were withdrawn from the approvals prior to the review
22 being issued were Big Chute and Lake Gibson. I think
23 you used the terminology they were cancelled. Those
24 projects have --

25 THE CHAIRMAN: No. That is perhaps loose

1 language if I said that.

2 MR. B. CAMPBELL: All right. Well, just
3 a small technical matter, but I tend to be overly
4 cautious on these items.

5 THE CHAIRMAN: Thank you for pointing
6 that out. (laughter)

7 MR. B. CAMPBELL: I can't help but
8 respond to my friend Mr. Greenspoon, at least to this
9 extent: It seems to me that for the very reasons that
10 Mr. Poch has outlined, it only makes sense for Ontario
11 Hydro to bring to everyone's attention at the earliest
12 opportunity if they no longer see it as sensible to ask
13 for approval of something that they have asked for
14 approval for and the rationale for that, what happens
15 then if it happens at all, I think Mr. Greenspoon is
16 quite correct, let's deal with it if it arises.

17 THE CHAIRMAN: We have got enough
18 problems we have without dealing with problems we don't
19 have, so we will wait until that happens.

20 All right, Ms. Couban.

21 MS. COUBAN: Thank you, Mr. Chairman.

22 Perhaps I could begin by introducing some
23 people. Sitting beside me at the counsel table is Mr.
24 Patrick Moran, my co-counsel. And assisting us today
25 is Dr. Larry Moore, who is the Manager of the Energy

1 Management Section, Policy Development and
2 Co-ordination Division of the Ministry of Energy.

3 The next preliminary matter that I can
4 perhaps deal with is to introduce some exhibits that I
5 will be referring to, some documents that I will be
6 referring to that perhaps we could enter as exhibits.
7 I have provided copies to Ms. Morrison and copies are
8 available for my friends on the table beside me.

9 Perhaps, Mr. Chairman, we could begin by
10 marking the document which is a two-page document,
11 double-sided. The first page is entitled, "Exhibit
12 3.1.4: Update, Energy Management Business Plan,
13 1991-1995, new initiatives in response to provincial
14 government direction". If that could have the next
15 exhibit number.

16 THE CHAIRMAN: Is that 263.

17 MR. NUNN: Yes.

18 THE CHAIRMAN: 263.

19 ---EXHIBIT NO. 263: Two-page document entitled,
20 "Exhibit 3.1.4: Update, Energy
21 Management Business Plan, 1991-1995,
new initiatives in response to provincial
government direction".

22 MS. COUBAN: The next exhibit, Mr.
23 Chairman, is a booklet which is entitled, "Home Heating
24 and Cooling, a consumer guide," January 1991, the
25 Ontario Ministry of Energy.

1 Perhaps I could explain that the only
2 part of this booklet that I will be referring to is the
3 insert which was printed up yesterday actually. If
4 that could have the next exhibit number.

5 THE CHAIRMAN: 264.

6 ---EXHIBIT NO. 264: Booklet which is entitled, "Home
7 Heating and Cooling, a consumer guide,"
8 January 1991, the Ontario Ministry of
9 Energy.

9 MS. COUBAN: And the last exhibit is the
10 package of responses to interrogatories, which begins
11 with Interrogatory No. 4.32.13.

12 THE CHAIRMAN: 265.

13 ---EXHIBIT NO. 265: Package of responses to
14 interrogatories.

15 MS. COUBAN: I believe those are all the
16 new exhibits that I will be referring to.

17 I did mention yesterday, Mr. Chairman,
18 that I would be referring to the Independent Consultant
19 Review or I referred to it as the Hagler report. I
20 referred yesterday to it as being part of Exhibit
21 261.6. I was advised last night by Mr. Campbell that
22 this is, in fact, Exhibit 24 to these proceedings.

23 THE CHAIRMAN: 24?

24 MS. COUBAN: Yes. I have brought extra
25 copies with me in case my friends did not bring that

1 with them.

2 CROSS-EXAMINATION BY MS. COUBAN:

3 Q. Mr. Wilson, I would like to begin
4 with a question to you. I am sure you are familiar
5 with the new energy directions policy announced by the
6 provincial government in November of 1990. That policy
7 is Exhibit 177 to these proceedings.

8 In that policy, energy efficiency was
9 given first priority and Ontario Hydro was asked to
10 accelerate programs to help consumers save electricity.

11 Specifically, the policy states, and I am
12 reading from the first page, the third bullet:

13 "The new directions have special
14 importance to Ontario Hydro and the
15 government is providing policy to Ontario
16 Hydro to" - and the second item states -
17 "suspend all activities and spending on
18 the proposed new CANDU A station and
19 redirect the related \$240-million planned
20 for pre-engineering and site studies for
21 this project to conservation programs."

22 Now, we have been given some examples and
23 I believe Ms. Fraser specifically gave us an example
24 yesterday of how the \$240-million of pre-engineering
25 costs have been used in the conservation context.

1 In fact, Ms. Fraser advised us that some
2 of those funds have allowed a tripling of Ontario
3 Hydro's audit program in the commercial sector.

4 I believe Ms. Mitchell also gave us an
5 example of how some of that \$240-million has been used
6 in the residential sector.

7 I would like to explore with you and
8 perhaps you would like to have reference to Exhibit 263
9 which we have entered this morning. I would like to
10 have some more detail or a fuller accounting of how
11 that 240-million has been spent by Ontario Hydro.

12 I believe that Exhibit 263 explains that
13 in some detail and perhaps you could explain that
14 document to us and add to it if you believe that is
15 necessary to answer my question.

16 MR. WILSON: A. Exhibit 263 was prepared
17 in late May and it is an update to our evidence before
18 the Ontario Energy Board on rates for 1992.

19 In it, we identified that of the
20 \$240-million which Ontario Hydro is redirecting from
21 pre-engineering work to demand management, something
22 like \$145-million had been assigned to identify program
23 initiatives. And these initiatives are spelled out in
24 the attached pages.

25 These were expected to result in a

1 reduction of load of 16-hour demand for electricity
2 measured at the customer's meter of about 150
3 megawatts.

4 Q. I am sorry, are you reading from the
5 first page to get that 150 figure?

6 A. That's correct.

7 Q. Okay.

8 A. Now, these initiatives fell into a
9 number of different areas. And if my colleagues would
10 like to expand on this in a moment, I will just take
11 you through the sort of highlights and then perhaps you
12 could let us know whether that is sufficient.

13 In the area of efficiency improvements to
14 federal and provincial buildings, as Ms. Fraser has
15 pointed out to us, there was a breakthrough of sorts
16 late last fall, both at the federal and provincial
17 levels where a willingness to participate with Ontario
18 Hydro in energy audits of buildings in Ontario was
19 achieved and we used some of the funds which we hadn't
20 anticipated being able to spend so quickly to greatly
21 expand the scope and pace of the audit program.

22 The second initiative, which is called T8
23 fluorescent lighting, identifies the new initiative
24 that we undertook to ensure that to the greatest extent
25 possible, T8 lamps and electronic ballasts would be

1 used in commercial buildings. As Ms. Fraser pointed
2 out to us yesterday, it is so much cheaper to do it
3 right the first time than have to go back later and
4 treat it as a retrofit.

...

1 [11:03 a.m.] That was another major opportunity and it
2 was arising just as we had problems being straightened
3 out with compatibility of electronic ballasts of T8
4 lamps.

5 The third area was in the area of
6 non-profit housing retrofits. Now again, our work with
7 the Ministry of Housing had reached a breakthrough
8 point again where the Minister of Housing announced
9 that all future non-profit housing would be heated with
10 energy other than electricity, and this was a
11 breakthrough because of the first cost issue that Ms.
12 Fraser explained to us yesterday. But that really
13 didn't deal with all of the non-profit housing units
14 which were already electrically heated, and there was
15 both an opportunity and indeed a need to go back and do
16 something about that.

17 As Ms. Fraser pointed out to yesterday,
18 the level of incentives for non-profit housing is quite
19 different than it is in many market segments and
20 programs because of the nature of the barriers to
21 efficiency improvements there. So, another fortuitous
22 and, to us, absolutely delightful combination of
23 opportunities and funds.

24 Energy efficient incandescent light bulbs
25 is the next program initiative, and this arises because

1 of changes in the availability of energy efficient
2 incandescent bulbs that can be used in a vast number of
3 applications in the commercial, but primarily the
4 residential markets. To replace ordinary light bulbs
5 and reduce the total demand for electricity, there is a
6 need, as we see it, to make everyone strongly aware of
7 this new opportunity and to try it out and overcome
8 their propensity to think of light bulbs as coming in
9 40s, 60s and 100s.

10 The last is the residential power saver
11 audit and home tune-up. Now, we had planned to run an
12 audit program, and it was described to you yesterday,
13 for residential customers in terms of an audit package
14 which is mailed to homeowners that they could fill out
15 and receive a customized report back about where their
16 opportunities lie.

17 The additional funds allow us to greatly
18 expand both the pace of that program and include a
19 substantially more costly element in it, which is a
20 follow-up to something like half a million homes over
21 the next few years. Actually having looked at the
22 audit findings and found out which customers and which
23 people have got the big opportunities and perhaps, for
24 them, big ticket items that they would have to
25 confront, to go back and sit down with them and work

1 out with them how this can be financed and how quickly
2 they can move on it.

3 Now, since that time, because as we have
4 discovered this morning, nothing stays still for long,
5 we have added, at least in plans if not approvals, for
6 additional initiatives which will raise the total of
7 committed spending to \$220-million and increase the
8 energy savings - I have that number here somewhere - by
9 1993 to 190 megawatts.

10 Now, these new initiatives are in the
11 areas of programs which Ontario Hydro will be carrying
12 on within the facilities of Ontario Hydro.

13 Now, Ontario Hydro is a very large
14 corporation with offices and facilities across the
15 province, and in fact is included as part of the
16 economic potential that Mr. Burke has identified.

17 We found that some of the decision-making
18 barriers to energy efficiency are no less a problem
19 within Ontario Hydro as they are within any industrial
20 or commercial organization. There are split incentives
21 and first cost considerations.

22 So, we are determined to put our money
23 where our mouth is and show that we will act and show
24 leadership and be a showcase for good, efficient
25 practice.

1 In this regard I think we are exhibiting
2 the same kind of behaviour as the provincial government
3 is in accepting our audit program.

4 I think that covers it now.

5 Q. Perhaps I can ask a question before
6 we turn to Ms. Fraser, if she has any elaboration.

7 Looking at page 1 of 263 where you set
8 out the total amount for 1991 to 1993 in megawatts, and
9 it is broken down, the total amount, into OM&A and
10 capital expenditures, could you explain how the OM&A
11 spending relates to demand management and then go on to
12 explain how the capital expenditures relate to demand
13 management?

14 A. I'm sorry, did you direct that
15 question to me?

16 Q. Yes, I did. I'm sorry, Mr. Wilson.

17 THE CHAIRMAN: Ms. Couban, I am a little
18 confused. Did you say that 151 figure was broken down
19 into 18 and 127? Aren't they different things?

20 MS. COUBAN: Oh, yes. I'm sorry, you are
21 correct.

22 THE CHAIRMAN: The top line is megawatts
23 and the bottom line is dollars?

24 MS. COUBAN: You are right, Mr. Chairman,
25 I'm sorry. I should be referring to the \$91-million in

1 brackets after after OM&A.

2 THE CHAIRMAN: That's '91 dollars; isn't
3 it? Isn't that what that means?

4 MS. COUBAN: I think it's 91-million.

5 THE CHAIRMAN: No, '91 dollars. That's
6 the standard, that's how the dollars are measured.

7 MS. COUBAN: Q. Is that correct, Mr.
8 Wilson?

9 MR. WILSON: A. Yes, that's correct.
10 Just taking into account inflation, millions in 1991
11 dollars.

12 Q. Thank you. Perhaps I will just keep
13 it more general then. How does OM&A spending relate to
14 demand management programs?

15 A. Well, let me answer that by almost
16 flipping the question around.

17 Starting in this year, where we can
18 identify spending which will create a program and
19 deliver that program and the incentives that are paid
20 out, where they are used as part of the program, we are
21 collecting those costs and treating them as an
22 expenditure to be amortized or capitalized and then
23 depreciated over the useful life of whatever the
24 technology or technologies that are being used in the
25 program.

1 Where we can't identify clearly and
2 explicitly that the costs are directly attributed to
3 the program or really prior to the approval of the
4 program design, then we are expensing those costs. And
5 that's why you see, when you look through, in general
6 in total, the vast proportion of the funds of the total
7 in this, on page 1 we see \$18-million for operations,
8 maintenance and administration costs, and \$127-million
9 as capitalized cost. We can put most of the costs and
10 tie them to specific program outcomes and therefore
11 defer the expensing of those.

12 Q. Thank you. Ms. Fraser, do you have
13 anything to add to Mr. Wilson's answer?

14 MS. FRASER: A. No, I think he did a
15 great job of capsulizing our programs.

16 Q. Thank you.

17 Mr. Wilson, staying with you, I would
18 like to ask you some questions about Ontario Hydro's
19 demand management plan in a more general sense. I have
20 finished now with Exhibit 263.

21 I take it you would agree that a number
22 of alternative plans for providing the new
23 demand/supply are considered in Ontario Hydro's
24 documents. I take it that's not a contentious point.

25 MR. WILSON: A. I am not sure I

1 understand what you mean.

2 Q. There are a number of different
3 alternative plans for meeting the new supply demand
4 that is identified in Ontario Hydro's documents, and
5 alternative ways, alternative means of meeting those --

6 A. Certainly, in the Demand/Supply Plan,
7 looking 25 years ahead, there are a number of options,
8 that's right.

9 Q. I also take it that you wouldn't
10 disagree that all of those plans are based on the same
11 demand management program?

12 A. That's correct.

13 Q. Okay. Now, are you familiar with the
14 demand/supply planning strategy?

15 A. I have looked at it in detail
16 sometime ago, not in the last year, I don't think.

17 Q. Could you at least explain the
18 relationship between the demand/supply planning
19 strategy and the DSP?

20 A. I can, at least with regard to demand
21 management.

22 Q. That's all that I am interested in.

23 A. All right, fine.

24 Q. Thank you.

25 A. Just a moment, perhaps if I could

1 pick up a copy of that, I could go through some of the
2 details.

3 Q. Certainly. Exhibit 67.

4 MR. SHALABY: The strategy is Exhibit 66.

5 MS. COUBAN: Fine.

6 MR. WILSON: As an alternative
7 reference, I am looking at Exhibit 3 in Appendix A, and
8 that's a succinct extract from report 666DSP, which is
9 the demand/supply planning strategy.

10 The priority strategic directions
11 identified, and there are a number of different
12 bullets, but the second bullet is to aggressively
13 pursue economic demand management options.

14 Then we turn to page A3 of that appendix,
15 and Section 3 which starts at the bottom of the first
16 column of page A3, and continues on to page A5,
17 contains 14 separate strategy elements that relate to
18 demand management.

19 I think that the overall strategy that we
20 followed is that demand management is our first choice
21 for resource planning and the demand/supply planning
22 strategy provides a framework for the development of
23 specific demand management strategies, the ones that I
24 had outlined yesterday, and demand management programs.
25 So, they touch on questions of criteria for selection,

1 like the demand management program should be economic
2 compared to supply; that we should pursue load shifting
3 to the extent that it is economic and respects system
4 limits, and that was explained yesterday, that you
5 perhaps could shift more than would be desirable and
6 create new nighttime peaks, which would make no
7 particular sense; that we would not be unmindful of the
8 fact that electricity does some jobs better than any
9 other energy form and where we are identify those, that
10 we would make it our business to transfer the knowledge
11 about those those electrotechnologies to the industrial
12 customers in Ontario and therefore promote, in some
13 cases, environmental benefits and certainly
14 productivity benefits for Ontario; that we would make
15 it our business to work in close cooperation with
16 municipal utilities and the provincial government; that
17 we would exercise our demand management programming so
18 that we attempted to get an optimum balance of
19 demand/supply resources as we move forward through the
20 next 25 years; and we would look particularly at the
21 new market, compared to the retrofit market, and the
22 purpose of that was to ensure that, as I said a few
23 minutes ago, that we didn't miss opportunities, it's
24 cheaper to do things right the first time.

25 Now, I could go on through the list here,

1 is that what you had in mind?

2 MS. COUBAN: Q. I was more interested in
3 understanding, through you, the relationship between
4 the demand/supply planning strategy as it dealt with
5 demand management and the demand management plan in the
6 DSP.

7 MR. WILSON: A. The touchstone is the
8 fundamental reference that we use in developing a
9 demand management plan.

10 Q. Thank you. I would like to refer to
11 Exhibit 67, which are the supplementary documents to
12 the draft demand/supply planning strategy, and
13 specifically if we go to supplementary document F which
14 is entitled, "Analysis of Representative plans."

15 A. Dr. Shalaby will be providing you
16 answers on this question.

17 Q. Thank you. If we could go to page 7
18 of that Appendix F. Now, as I understand it, this
19 Section 3.0 entitled, "Alternative Planning Strategies"
20 describes the alternative plans considered in the DSPS
21 with respect to demand management; is that correct?
22 Just the alternative plans, not with respect to demand
23 management. They considered all supply plans, demand
24 plans, distributed resources and mixed plans; is that
25 correct? ...

1 [11:18 a.m.] MR. SHALABY: A. Those are plans that
2 are considered in the period before the planning
3 strategy was finalized. So those are not the DSP
4 alternative plans. Those were illustrative alternative
5 planning strategies that were done to lead to the
6 finalization of the demand/supply planning strategy.

7 Q. Okay. Now, if we turn to page 9 of
8 Appendix F, figure 3.2. That lists the alternative
9 plans and identifies them with a particular letter or
10 letters; is that correct?

11 A. Yes.

12 Q. Now, could you identify which of
13 those plans identified by letters are the demand
14 management plans.

15 A. The fourth and fifth identified as AD
16 and J.

17 Q. And would it be fair to describe Plan
18 J as having very little new central supply, relying
19 primarily on demand management? Would that be a fair
20 characterization of that Plan J?

21 A. Well, it has less supply than some
22 other plans and it has more supply than others, so it
23 is somewhere in the middle between -- if you look at
24 Plan AD, it has even less supply than Plan J for
25 example. And if you look at Plan AS it has much more

1 supply than Plan J because Plan J is somewhere in
2 between in terms of supply.

3 Q. So, perhaps we could describe Plan AD
4 as the most ambitious demand management plan considered
5 in this table. Would that be fair?

6 A. Plan AD is described in figure 3.1
7 which is right on the opposite page, page 8, as a plan
8 that would use high incentives for demand management
9 and will use price as a way to choke off demand to
10 eliminate the need for supply.

11 Q. So, Plans AD and J and G are the
12 demand management plans that we should be considering
13 if we are talking about demand management plans and
14 conservation scenarios? Would that be correct?

15 A. Depending on what you are
16 considering, they are alternative scenarios that were
17 put forth, yes.

18 Q. Okay. On what basis or for what
19 reasons were these demand management plans or scenarios
20 rejected at the DSPS?

21 A. The plans that relied heavily on
22 raising price to choke off demand were rejected because
23 the judgment is -- the damage done by increased prices
24 is unacceptable to our customers and unacceptable to
25 the provincial economy.

1 Some of these increased prices were up to
2 200 per cent, meaning you could foresee tripling
3 electricity prices to choke off demand. If you relied
4 on prices alone, you may have to go to tripling the
5 price to choke off demand, and that was considered
6 unacceptable.

7 Q. So, that would explain the rejection
8 of which plan specifically? Just Plan AD?

9 A. Well, Plan P on the left-hand side
10 that's entirely price; that didn't even make it to
11 figure 3.2. And Plan AD as well.

12 Q. What about Plan J? What were the
13 reasons for rejecting Plan J?

14 A. Well I think if you go further to
15 figure 6.1, which is on page 23, some of the reasons
16 offered there. Figure 6.1 compares the long-term cost
17 of the different plans. Plan J was \$3900-million more
18 expensive than the base which was Plan B. That's one
19 of the reasons - I don't think that's the only reason -
20 but that's shedding some light into how the comparison
21 was made.

22 I think the document goes into a little
23 more detail of how the comparisons were made and how
24 the decisions were made as to what plans were rejected
25 and what plans were not rejected.

1 Q. Given that there were variable plans
2 for demand management considered at least at the draft
3 DSPS stage, why were no such variable plans included
4 with respect to demand management in the Demand/Supply
5 Plan documents?

6 A. We really built on the conclusions
7 that this document and this study gave us. This study
8 concluded clearly that plans that have demand
9 management are better than plans that do not have
10 demand management.

11 And it indicated that the maximum demand
12 management that can be obtained at costs that are
13 comparable or less than the cost of supply would lead
14 to a better formulated integrated plan. So, really, we
15 built on that conclusion and decided that in the
16 Demand/Supply Plan, we will come forth with a demand
17 management plan that represents the maximum that we
18 think we can obtain.

19 If we gave you any other alternatives it
20 would be below that maximum and we would have rejected
21 them ourselves. So we went to the maximum and we
22 presented that as the acceptable alternative in demand
23 management.

24 Q. I understand that Ontario Hydro has
25 considered different demand management techniques

1 within the demand management plan. Did Ontario Hydro
2 consider different levels or different combinations of
3 those different demand management techniques in the
4 DSP?

5 A. Perhaps you can tell me what you
6 meant by considering different techniques.

7 Q. Different alternative ways of
8 achieving the demand management target. Keeping the
9 target constant, but different alternative ways of
10 achieving that target. Different techniques and
11 different levels of those techniques varying within the
12 demand management target.

13 A. I think you have witnessed, from the
14 testimony of Ms. Fraser and Mr. Wilson, the way of
15 getting, for example, at the lighting. Efficient
16 lighting potential has changed dramatically over the
17 last couple of years. The incentives have changed, the
18 reaching of decision makers has changed, and many other
19 dimensions and variables to every program have changed
20 and will continue to change.

21 Now that was not predictable or something
22 that we could have listed to the last detail at the
23 time we wrote the Demand/Supply Plan. That was in
24 1989. We identified the potential, we identified the
25 areas where efficiency can be gained, and we realized

1 fully that the way of getting that potential is going
2 to depend on our success, our experience, what we
3 learn, how our market behaves, how our customers
4 respond and all of that. So, the way of achieving that
5 potential is expected to change and we expected that
6 all along.

7 Q. Now you have told us that the reason
8 Ontario Hydro went with a constant level of demand
9 management in the DSP was because they, after
10 evaluating the experience and the results of the draft
11 DSPS and the actual DSPS, they concluded that the level
12 in the DSP was the maximum achievable level of demand
13 management.

14 A. It is the maximum given the three
15 pages of strategy elements that Mr. Wilson pointed to a
16 little earlier. Within those constraints, within those
17 guidelines, that was the maximum that you can achieve.

18 Q. You have also given us some reasons
19 why Ontario Hydro rejected some of the alternative
20 demand management scenarios or plans set out in the
21 draft DSPS. Did Ontario Hydro revisit those reasons
22 for rejecting the alternative demand management plans
23 when developing the DSP? That would have been some
24 time, I take it, after the draft DSPS was completed and
25 the DSPS itself was completed. Were those reasons for

1 rejecting the alternative demand management plans
2 revisited to see whether those reasons were still
3 valid?

4 A. I am not sure I agree with you that
5 we rejected the demand management plans. I think the
6 element that is not carried through into the
7 Demand/Supply Plan is the idea of using price to choke
8 off demand. That is the element that was rejected.

9 And Mr. Harper gave us many reasons why
10 pricing is something that has many objectives and has
11 many ramifications. And I think looking at tripling
12 the price to control demand was not judged to be
13 acceptable and continues to be unacceptable.

14 Q. I believe that you said that price
15 was one of the reasons and that there were other
16 reasons?

17 A. For rejecting that particular plan,
18 yes.

19 Q. Correct. I am wondering whether
20 Ontario Hydro revisited those other reasons, including
21 price, when developing the DSP and the demand
22 management plan in the DSP to see whether those reasons
23 for rejecting the alternative plans were still valid?

24 MR. BURKE: A. Maybe I would make one
25 observation about the demand management estimates that

1 were in those early alternative plans. Those were not
2 detailed estimates of potential and attainable as we
3 are presenting today.

4 My sense of the plan - and maybe Dr.
5 Shalaby can correct me if I am wrong here - is that
6 those plans really said, were real scenarios: What if
7 we had demand management of so-and-so-many megawatts
8 and then we had a nuclear plant and whatever as in case
9 J? Or what if we used demand management and some price
10 and we completed our supply/demand balancing act with
11 that combination?

12 So, it wasn't as if we knew that we had
13 that much demand management and we were now rejecting
14 that opportunity. We were just looking at what-ifs at
15 that stage. And then we later on analyzed in detail
16 what the potentials were, how much we could get of it.
17 And as Dr. Shalaby indicated, our principle was to get
18 the maximum economic demand management and that's the
19 principle that carries through from the DSPS.

20 It wasn't that we used to think we could
21 get more than we now think or at some point along the
22 way we had actually proved-up a certain number and
23 decided to ignore it. Far from that. Those were
24 essentially what-if cases for planning purposes. Is
25 that a fair statement, Dr. Shalaby?

1 MR. SHALABY: A. Yes, that's fair.

2 Maybe before the break, I appreciate the
3 honorary degree Mr. Wilson and Mr. Burke are giving
4 me, but.... (laughter) I noticed earlier in the
5 hearing some other real doctors didn't like the
6 omission of that, but I don't have that degree. Maybe
7 after the hearing I could qualify for one but not at
8 this time. (laughter) But thank you for the honour.

9 MS. COUBAN: This is an appropriate time
10 for the break, Mr. Chairman.

11 THE CHAIRMAN: We will break for fifteen
12 minutes.

13 ---Recess at 11:32 a.m.

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1 ---On resuming at 11:49 a.m.

2 THE CHAIRMAN: Please be seated.

3 Ms. Couban?

4 MS. COUBAN: Thank you, Mr. Chairman.

5 Q. Just one last question on Exhibit 67
6 before we leave it, Mr. Shalaby. It is on table 3.2,
7 again, if we could turn back to that, page 9 of the
8 Appendix F.

9 And specifically looking at Plan J, I
10 would just like to clarify or if you could confirm that
11 Plan J, in fact, has no price-driven conservation in
12 that particular plan; is that correct?

13 MR. SHALABY: A. That's correct.

14 Q. Okay. And that, in fact, Plan AD
15 only has 913 megawatts of price-driven conservation; is
16 that correct?

17 A. In the medium load forecast, that is
18 the case. In the upper load forecast, it is a much
19 larger quantity and is shown in figure 3.3 on page 10.
20 It includes 12,430 megawatts of price-driven
21 conservation.

22 Q. Okay. Thank you. And I would like
23 to very briefly refer to you Interrogatory Response
24 4.32.20, which is the last interrogatory response in
25 Exhibit 265.

1 The question was:

2 "Has the Demand/Supply Plan identified
3 an optimum demand management plan and
4 evaluated it as an alternative to the
5 undertaking; if so, what is it?"

6 And the response is:

7 "The demand management plan described
8 in the Demand/Supply Plan Report, Exhibit
9 3, and demand management in the 1989
10 Demand/Supply Plan, Exhibit 25, is
11 considered the preferred plan, taking
12 into account the primary and secondary
13 planning criteria and program
14 implementation changes since the
15 publication of the DSP."

16 My question is: What is the demand
17 management plan in the 1989 Demand/Supply Plan, Exhibit
18 25, considered preferred over? It refers to it in that
19 response as being "the preferred plan". What is it
20 preferred over?

21 A. You could consider it is preferred
22 over no demand management. It is also preferred over
23 lesser amounts of demand management.

24 Q. Do we have those plans before us?

25 A. No, we don't. And the reason for

1 that is we would have made them up and rejected them.
2 We knew that any demand management plans that have
3 fewer megawatts would be less preferred than plans that
4 have higher megawatts. So, rather than put up plans
5 and then reject them, we just didn't produce them.

6 Q. The rationale and the reasoning for
7 rejecting those plans is not available to us, I take
8 it?

9 A. It is available to you. I am saying
10 that any plans that have fewer amounts of demand
11 management are less preferred.

12 The reason for rejecting any plan with
13 fewer megawatts is that our strategy directed us to go
14 to demand management first, go to the maximum there and
15 then build up with supply.

16 Q. But there is no documentation on
17 those specific reasons for rejecting those plans; is
18 that not correct? There is nothing in the DSP relating
19 to the reasons for rejecting other alternative demand
20 management plans.

21 MR. B. CAMPBELL: Well, with respect, Mr.
22 Chairman, hasn't this question already been answered?
23 I think they have spoken repeatedly to the strategy
24 element that drove that decision, and that is the
25 rationale.

1 THE CHAIRMAN: The rationale being that
2 they took the one that had the most potential.

3 MR. B. CAMPBELL: Exactly. The strategy
4 element for the development of the plan as these
5 witnesses have testified has been as they have
6 described it, and there is a process that they have
7 described that built up to the determination of that
8 strategy element.

9 But the basic strategy element arrived at
10 after study was that, as Mr. Wilson has described
11 several times, Mr. Shalaby has already described
12 several times, is that for a variety of reasons that
13 are all discussed, obtaining the maximum economic
14 demand management results was a priority over looking
15 at supply options.

16 MS. COUBAN: That is fine, Mr. Chairman.
17 I will move on. Thank you.

18 THE CHAIRMAN: Okay.

19 MS. COUBAN: Q. Okay. If I could now
20 refer to Exhibit 24, the independent consultant review
21 of Ontario Hydro expectations and targets for demand
22 management activities. I think, Mr. Wilson, these
23 questions should be directed to you.

24 Now, if we turn to page 3, for example,
25 of Exhibit 24, entitled, "approach", the first bullet

1 identifies that the approach involved conducting
2 indepth telephone surveys of a total of 52 utilities,
3 including many of the largest Canadian and U.S.
4 utilities plus selected smaller utilities known to be
5 aggressively pursuing innovative DM programs.

6 And on page 4, the top bullet refers to
7 that telephone conversation or the indepth telephone
8 conversation described on page 3 as being a survey of
9 30 to 90 minutes in cumulative duration with multiple
10 contacts established at each utility.

11 Does this survey represent the extent of
12 Ontario Hydro's knowledge with respect to the
13 experience of other utilities in North America and
14 their demand management programs.

15 MR. WILSON: A. No, it certainly
16 doesn't.

17 Q. Could you explain what other
18 information Ontario Hydro has with respect to the
19 experience of North American utilities in demand
20 management?

21 A. Yes. Just a moment, I will find the
22 reference.

23 I am sorry, I don't have that information
24 right at my fingertips. Perhaps after the lunch break
25 I can come back and answer that question.

1 The general answer, however, is that we
2 have conducted formal research through consultants of
3 sort of the best demand management programs and the
4 features of the program designs in all three sectors
5 across North America.

6 We have people like Ms. Fraser here who
7 has just returned from the Boston demand/supply
8 management conference and we put staff into the
9 conferences and sessions like this on a regular basis
10 so that we can develop informal contacts. Those
11 informal contacts are used extensively in program
12 design as we get to know people on a first name basis
13 and find out what is working and what is not working.
14 So, we end up with a substantial body of information
15 about what works and what doesn't.

16 The purpose of the survey that is Exhibit
17 24 was to give us a sense of where we stood as we got
18 going in this business of how aggressive, or perhaps
19 not aggressive, our targets were, whether they were
20 realistic and whether the balance across the three
21 sectors was typical or otherwise of endeavors
22 elsewhere, and generally, just to get a sense of where
23 we were as we started into this business. We have come
24 along way since then.

25 Q. So, you will provide me with some

1 information after the lunch break?

2 THE CHAIRMAN: What more information do
3 you want than that?

4 MS. COUBAN: I would like to know what
5 else Ontario Hydro knows about the experience of North
6 American utilities and specifically, the sources of
7 that information. I only have Exhibit 24 before me,
8 which one could --

9 THE CHAIRMAN: First of all, I am a
10 little bit interested in what the relevance is of
11 exploring this any farther than what Mr. Wilson has
12 just said.

13 MS. COUBAN: Only --

14 THE CHAIRMAN: How is that going to help
15 us make our decision about demand management plan?

16 MS. COUBAN: So that one could compare
17 Ontario Hydro's programs with the experience of North
18 American utilities and the successes of some of those
19 programs as a means or a benchmark for you to compare
20 the programs and whether they will succeed or are
21 likely to succeed in the Ontario context.

22 THE CHAIRMAN: Even if that material was
23 available, it would be voluminous material.

24 Are you expecting us to go through that
25 and analyse that?

1 MS. COUBAN: Well, I am not sure.

2 Q. Mr. Wilson, is that voluminous
3 material.

4 MR. WILSON: A. Yes, it is. A lot of
5 it -- well, I would say based on my experience of the
6 last few months, probably all of it has been filed as
7 interrogatory responses and I can give you those
8 references.

9 MS. COUBAN: We will come back to this
10 area, Mr. Chairman, with some more specific questions.
11 Perhaps I will leave the general questions for now, if
12 that is satisfactory.

13 THE CHAIRMAN: Thank you.

14 MS. PATTERSON: Do you want to give the
15 specific references?

16 MR. B. CAMPBELL: I think given the
17 answer that Mr. Wilson has given, I am having a little
18 problem with the question of an undertaking in this
19 area. I mean, while there is material in the
20 interrogatory answers - there is no question about it -
21 there is also a wealth of, kind of, experience and work
22 that people in the demand management area generally do
23 with U.S. utilities. And I wouldn't want to leave the
24 impression that the documented material in the
25 interrogatories would be a comprehensive answer to an

1 undertaking of that nature. I think it wouldn't be.

2 I am very concerned about what we are --
3 if we are being asked for a complete catalogue of all
4 of Ontario Hydro's experience with U.S. utilities --

5 THE CHAIRMAN: Well, I think Ms. Couban
6 said if she needs -- I mean, I think the proper thing
7 is to ask questions, but I don't think general
8 questions of that nature are terribly helpful, so that
9 I think the matter stands at rest at the moment. I
10 don't think there is any further undertaking required.

11 MS. COUBAN: Thank you, Mr. Chairman.

12 Q. Page 9 of Exhibit 24, if we could
13 turn to that briefly. That page lists the utilities
14 surveyed. And I note that all but three of the U.S.
15 utilities surveyed were investor or private-owned.

16 Now, on Tuesday, Mr. Shalaby said, not
17 specifically in the context of this survey, but he did
18 state that comparing investor-owned utility demand
19 management programs to Ontario Hydro's had some
20 complications or added dimensions.

21 Could you explain what are those
22 complications or added dimensions and whether
23 comparisons between privately-owned utilities and
24 Ontario Hydro and what those complications are and
25 comparing those programs with Ontario Hydro's demand

1 management programs?

2 MR. SHALABY: A. Well, as I said on
3 Tuesday, the added dimension is the presence of the
4 shareholder. A shareholder is a separate entity in an
5 investor-owned utility. In Ontario, the shareholder is
6 the same as the customer. That is the added dimension
7 I am talking about.

8 Q. So, what are the complications then
9 in making meaningful comparisons between the demand
10 management programs of privately-owned utilities with
11 Ontario Hydro's demand management programs?

12 A. The additional dimension here puts
13 added burden on program design and added burden on the
14 planning of delivery of programs and allocation of
15 monies in such a way as to satisfy the requirements of
16 both customers and shareholders.

17 Q. I will leave Exhibit 24 and I may
18 come back to that later.

19 Mr. Wilson, I would like these questions
20 to be directed to you. And I would like to refer to
21 Exhibit 146, which is the review under the
22 Environmental Assessment Act by government ministries
23 and agencies.

24 And if we could turn to the Ministry of
25 Energy's comments, which are at the beginning of this

1 document, close to the beginning of this document, and
2 specifically, if we could go to page 13 of the Ministry
3 of Energy's comments and conclusion C2.

4 THE CHAIRMAN: Just a moment.

5 MS. COUBAN: Sorry.
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1 [12:03 p.m.] Q. Conclusion C2 on that pages states:

2 "Ontario Hydro should accelerate the
3 development of demand management programs
4 so that more information can be made
5 available about progress in meeting the
6 planned load reductions from demand
7 management activities."

8 What information has Ontario Hydro gained
9 from its demand management programs to date which would
10 assist it in better meeting or achieving its future
11 demand management activities or targets?

12 MR. WILSON: A. I think I will let my
13 colleagues answer that question, they are the ones who
14 gained experience.

15 MS. FRASER: A. Well, I think I spent
16 quite a bit of time yesterday talking about what we
17 learned from the streetlighting pilot program, and what
18 we learned there was it wasn't necessary to pay 100 per
19 cent the total cost to get 100 per cent, or close to
20 100 per cent of the potential, as long as you carefully
21 targeted the programs and carefully targeted the
22 decision maker and provided the right support and
23 involved the allies to help you do that program.

24 I also talked about the high efficiency
25 motor program in terms of the pilot that we ran there

1 in terms of the importance of including a distributor
2 incentive so that the product was available.

3 We have learned that making the product
4 available, for example, in the residential market. The
5 compact fluorescent promotion with Loblaws last year
6 certainly showed us that there is a demand for the
7 lamp, and it showed other retailers who were previously
8 saying there wasn't a demand for that lamp and weren't
9 stocking it, that there was a demand and they have now
10 began stocking the lamp.

11 Q. Perhaps I could ask you, if I could
12 interrupt just for a moment, Ms. Fraser, if I could ask
13 you about that Loblaws example and the efficient light
14 bulbs. What, if anything, did Ontario Hydro do to
15 predict the public's reaction to that program?

16 A. I will Ms. Mitchell talk, she is the
17 residential expert.

18 MS. MITCHELL: A. I believe - I was not
19 involved in the actual negotiations of that program but
20 I believe - that several discussions were held
21 manufacturers and with the Loblaws retailer itself to
22 determine what sort of shelf space would be anticipated
23 and how quickly sales would move, as well as combining
24 that information with discussions with manufacturers
25 based on previous sales.

1 Q. Did Ontario Hydro do any research
2 such as the experience of other jurisdictions with
3 selling such light bulbs in order to determine what the
4 public's reaction would have been?

5 A. I believe that we did investigate
6 programs in the United States which were not retail
7 based; they were utility based in that they were given
8 away by the utility or installed directly by the
9 utility. So, the comparison cannot be directly made.

10 Q. Thank you.

11 Ms. Fraser, do you want to continue?
12 Sorry for interrupting.

13 MS. FRASER: A. I could spend quite a
14 bit of time talking about all the various programs and
15 what we have learned.

16 Q. Just generally I would like to know
17 some of the general principles that Ontario Hydro has
18 learned as a result of the experience that they have
19 had with their demand management programs.

20 A. Okay. Well, Interrogatory 4.20.45
21 which I referred to yesterday, I forget which number it
22 is in Exhibit 261 now, it describes all the changes to
23 incentive levels that we have, and the rationale for
24 those changes in incentive levels, and I would say that
25 that would be a good summary of the kinds of things we

1 have learned from actually operating full scale
2 programs in the commercial market. For example, we
3 learned that a number of the very large projects would
4 not go ahead at the \$300 a kilowatt. It was just not
5 bringing the payback down into the realm that was
6 satisfactory to some of the large building owners, and
7 these projects were in downtown Toronto. As a result,
8 we made the case and got approval for higher incentives
9 to ensure that those projects went ahead, and so we
10 certainly learned from that.

11 I guess we have also learned that with
12 not offering 100 per cent incentives right off the bat
13 with certain things, that we have seen prices come down
14 in certain products, and I think that's critical. I
15 talked about that a bit yesterday in my evidence in
16 chief.

17 In the industrial market we have
18 certainly learned that we have to be very tailored and
19 have a one on one personal contact with particularly
20 those largest 200 industrial customers in the province,
21 and that we can then take things that we have learned
22 in that context and develop campaigns to spread that
23 technology and information around. That's why we used
24 a lot of testimonials and showcase in newsletters and
25 other types of publications.

1 As I say, I can go on program by program
2 and give a little bit of a description, but I think
3 that generally sorts of sums up the kinds of things
4 that we have learned.

5 Q. Thank you. Does this new knowledge
6 indicate that it is still appropriate to continue to
7 use 30 per cent as the average penetration rate for
8 demand management programs?

9 A. Well again, averages are one thing.
10 Penetration rates are determined not on an average
11 basis but in commercial on a segment by segment basis,
12 and in residential on an end-use and technology basis,
13 and industrial on a sort of a combination of those two
14 things.

15 For example, one of the things that has
16 not factored into our penetration rates at this time is
17 what level of response that we are going to get from
18 both the federal and provincial governments with
19 respect to the follow-up after our audits. We are
20 still negotiating that program, how the financial
21 assistance will have to work in terms of our incentives
22 and payments and that kind of thing.

23 When we did the original in penetration
24 rates for the commercial sector, at that time we were
25 assuming -- we were not allowed to pay incentives

1 either to the Receiver General of Canada or the
2 Provincial Treasurer. So, when we get some kind of a
3 commitment and sort of a signed memorandum of
4 understanding, or whatever other mechanism we end up
5 using; for instance, in the federal government we will
6 be doing it on a project-by-project basis as opposed to
7 a blanket kind of thing. Those sorts of things will be
8 factored into our decisions, because as you can
9 appreciate, between the federal and provincial
10 government, they occupy a significant amount of floor
11 space in the commercial market, and so that is one of
12 the unknowns that we have at this time.

13 Q. So, the penetration rates have not
14 been adjusted upwards as a result of the new
15 information that Ontario Hydro has?

16 A. The only information that we have so
17 far is that we are doing audits at the rate of 1,300 a
18 year, and we have completed 700 or so audits for each
19 of the federal and provincial government at this time.
20 We don't, at this time, have signed agreements beyond
21 doing audits, and we are negotiating programs right
22 now, probably as we speak.

23 Q. Just one moment, please.

24 Does the new knowledge that Ontario Hydro
25 have as a result of the experience it has had with its

1 demand management programs to date, has that new
2 knowledge contributed to the upward revision of the
3 demand management figures that we heard about
4 yesterday?

5 A. No, those changes in numbers are due
6 to the fuel switching and the expectations or the
7 potential range of scenarios with respect to standards
8 and mandation.

9 The new knowledge helps us get what we
10 had aimed at before. We knew we were being very
11 aggressive in our targeting setting and setting --
12 which, you know, helped us determine the penetration
13 rates. We knew we would figure out how to get there,
14 but as Mr. Shalaby pointed out earlier, just exactly
15 how those things would fall out as we move through the
16 process, going from a situation where Ontario Hydro had
17 virtually no experience providing incentives, to a
18 situation where now have a full scale slate of
19 incentives.

20 We basically did a lot on faith in these
21 first couple of years in terms of setting ambitious
22 targets.

23 Q. So, you are suggesting that the
24 experience is contributing to the achievement of the
25 targets that Hydro has set?

1 A. That's right.

2 Q. Rather than raising the targets or
3 raising the penetration rates?

4 A. At this point, I think that's as much
5 as we know, yes.

6 Q. Going back for a moment to the
7 Loblaws example and the unexpected public's reaction to
8 that program, is it realistic to assume that perhaps
9 the success of that program indicates that we have a
10 public that is ready and willing to accept demand
11 management measures; that is, that the cultural or
12 lifestyle shift that Mr. Wilson referred to in his
13 testimony, I believe, in direct evidence, has already
14 taken place to some extent.

15 MS. MITCHELL: A. I believe that to be
16 true to a certain extent in that this was a new
17 technology and we were working with a very successful
18 retailer in promoting the environmental message, which
19 I think heightened the awareness of this particular
20 product introduction.

21 I wouldn't say that the job is over yet
22 and that we have accomplished all that we need to do in
23 creating that cultural shift that Mr. Wilson spoke of
24 yesterday.

25 Q. Has Ontario Hydro taken any steps to

1 evaluate the existence or non-existence of such a
2 cultural shift?

3 A. I believe we have undertaken market
4 research studies, customer research, of which I can't
5 relate specific pieces of research or refer to them
6 exactly at this moment. However, we do do customer
7 awareness studies of energy efficiency. I believe it's
8 a part of the registry that we filed of market
9 research, which we monitor on an ongoing basis to
10 determine various changes in behavioural patterns which
11 would give us that information.

12 Q. Mr. Wilson, if I come back to you for
13 a moment. I believe that you stated that Ontario Hydro
14 is not presently involved in any load building or
15 valley-filling programs; is that correct?

16 MR. WILSON: A. We have no programs with
17 those objectives.

18 Q. Okay. If I could refer to Exhibit 3,
19 page 7-2 and 7-3. I am looking at the third column on
20 page 7-2, at the very bottom of that column, which
21 begins, "While Ontario Hydro's..." If I could just
22 read that to you.

23 "While Ontario Hydro's demand
24 management plan has no load building
25 objectives, Hydro's research division

1 provides advice to customers about
2 efficient electric technologies. This
3 service may result in some load
4 building."

5 Would it, therefore, be fair to say that
6 Ontario Hydro is involved in activities that are load
7 growth activities if, in fact, it's not involved in
8 load growth programs?

9 A. The answer is that some of the
10 activities are going to create a demand for electricity
11 where it hadn't been there before, or pardon me, fill a
12 demand with electricity. I think that's a better way
13 of putting it.

14 In the scheme of things, this shouldn't
15 be taken sort of out of proportion.

16 I am not sure of our numbers, but I think
17 that our total expenditures in this area over the last
18 two or three years in electrotechnology transfer has
19 been something like 2- or \$300,000 a year. Now, when
20 you contrast that to \$300-million a year for demand
21 management, it is just not in the same ballpark.

22 We have industries approach us saying,
23 "What about electron beam welding, can you help us
24 without with radio wavelength drying techniques for
25 curing of paints or inks, do you have any expertise

1 that you can share with us that would help us become
2 more productive?", and and we don't turn them away.
3 That's all that's captured in this.

4 Q. I take it though, that you don't
5 disagree with the statement that certain services that
6 Ontario Hydro offers may result in some load building?

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1 [12:19 p.m.] A. That's correct.

2 Just to follow up. The objective is
3 clearly not to build load; it is to provide the
4 expertise and service that our customers pay for and
5 are entitled to.

6 Q. Mr. Wilson, I believe you discussed
7 with us Ontario Hydro's overall approach in delivering
8 demand management programs and its strategies in
9 delivering those programs. And you referred us to page
10 72 of Exhibit 160 -- 260, sorry, which overhead sets
11 out Ontario Hydro's strategies in delivering demand
12 management programs.

13 A. That's right.

14 THE CHAIRMAN: Sorry, which number was
15 that?

16 MS. COUBAN: 72.

17 THE CHAIRMAN: 72?

18 MS. COUBAN: Yes.

19 MR. WILSON: Yes.

20 MS. COUBAN: Q. The second item on that
21 page is entitled "Share Benefits", and I believe that
22 you explain this as being the concept of sharing
23 benefits with all those who contributed to the success
24 of a program. Is that correct?

25 MR. WILSON: A. Yes.

1 Q. Now, that characterization leaves the
2 impression that non-participants of a particular demand
3 program do not get benefits from that demand management
4 program. Would you agree that if a demand management
5 program has positive economic and environmental
6 benefits, then those benefits will be enjoyed by the
7 general public rather than just the participants of a
8 particular demand management program?

9 A. That may be the case. We talked at
10 some length yesterday about different tests and one of
11 the tests that was mentioned was the rate impact
12 measure. And where a program has the effect of pushing
13 electricity rates upwards, then people who haven't
14 participated in the program simply get to pay more for
15 their electricity and they don't get reductions.

16 Our concern about fairness across Ontario
17 is laid out. It is one of the strategy elements of the
18 demand/supply planning strategy and that is that we
19 should attempt to provide programs so that there is a
20 wide, there is a broad menu of programs so that
21 everyone can take part in something which meets their
22 needs and fits their circumstances best. So, we hope
23 that no one is left out of the benefits of demand
24 management. But for any particular program, yes, they
25 may well be left out.

1 Q. So, the impression that may have been
2 left with at least some of us yesterday, in fact the
3 benefits of a demand management program shared only by
4 the participants in that program is not your view of
5 the benefits of all demand management programs; is that
6 correct?

7 A. Yes. The point I was trying to make,
8 and perhaps I should make it more clearly, is that we
9 can't expect customer to act unless they perceive a
10 benefit. We can't expect our allies or municipal
11 utilities to act unless they perceive a benefit. And
12 unless we see a benefit in running through our economic
13 evaluation test then we won't act. So that there have
14 to be benefits. And to get people to participate and
15 co-operate, they have to share in those benefits.

16 Q. I think this question is
17 appropriately directed to either you, Mr. Shalaby, or
18 you, Mr. Wilson. It deals with the cost of
19 environmental regulation and its relationship to demand
20 management programs.

21 I take it you would agree that the
22 present environmental regulations with respect to acid
23 gas controls does not require Ontario Hydro to put
24 scrubbers on its fossil fuel generators; rather, it
25 limits the total amount of acid gas emissions that

1 Ontario Hydro can emit. Would you agree with that?

2 MR. SHALABY: A. Yes.

3 Q. Now, one way to meet those limits is
4 to put scrubbers on the fossil fuel generators.
5 However, has Ontario Hydro done any calculations on the
6 amount of environmental benefit achieved by spending
7 the money that would otherwise have been spent on such
8 environmental controls as scrubbers and rather spending
9 that on a demand management program that would cost the
10 same amount as the cost of those scrubbers and
11 comparing the relative environmental benefits of those
12 two approaches by spending the same amount of money?

13 A. I don't know that we have done that
14 kind of calculation. I don't know whether the answers
15 will be very meaningful either because the two
16 expenditures do not necessarily achieve the same thing.
17 The expenditure on scrubbers has the environmental
18 benefit of reducing emissions. It also has the
19 benefits of enabling Hydro to continue to use its
20 coal-fired stations to supply electricity.

21 So, I'm just saying spending the same
22 money in one area or another, if you compare the
23 environmental impact that's not the entire story. The
24 story is a little more complicated than that.

25 MR. WILSON: A. Perhaps I could add a

1 slightly different perspective to this. When we look
2 at demand management options and decide whether or not
3 we are going to proceed with them, we compare their
4 costs to the avoided costs of alternative supply.

5 Part of the and rolled into this avoided
6 costs is the cost of putting scrubbers on coal
7 stations. Now if we can avoid putting scrubbers on
8 coal stations, that would be an avoided cost. And so
9 the evaluation of demand options clearly reflects a
10 trade-off between abatement of emissions and avoidance
11 of the demand for power that created the emissions in
12 the first place. So, I think we have got that really
13 built into our decision-making process right in the
14 essence of the calculation.

15 Q. With respect to Hydro's evaluation of
16 its demand management programs, when evaluating the
17 effectiveness of your demand management programs, how
18 do you separate the savings that are natural
19 conservation and the savings that were induced strictly
20 by that particular program? Do you do such a
21 separation?

22 A. I can answer in broad terms.

23 There are programs that I think as you
24 heard yesterday like the energy efficient motors that
25 were clearly never going to green market share without

1 a good strong push. As a consequence, we simply keep
2 track of the incentive payments we have made and the
3 number of horsepower efficient motors that have been
4 installed and the consequent energy savings,
5 electricity savings, and feel that we really basically
6 have no discounting to do or no separation problem.

7 There are other programs where there is
8 some separation to be done. And some of the
9 information that you might need to get a handle on this
10 is to just look in the program concept and reference
11 document that spells out, in the details, our estimate
12 of free riders in each of the different program areas.
13 That's our estimate of the proportion of customers who
14 have taken part in programs that would have taken the
15 steps in any case. And so we make our best estimate of
16 what that would have been.

17 I think that's described rather
18 extensively in a planning perspective in Exhibit 76...
19 yes, by sector on page 18, Exhibit 76. It describes it
20 both by sector and then later on, I think by
21 technology, exactly what our assumptions have been.

22 The way we go over that in some cases is
23 simply looking at the level of sales of this product
24 prior to the initiation of a program and the level of
25 sales afterwards and say well, the difference in the

1 absence of other drastic changes in the marketplace is
2 our program.

3 Q. Thank you. If I could just have a
4 moment.

5 You have mentioned the issue of free
6 riders. And Ms. Fraser referred to that in her
7 testimony yesterday. Why is that issue relevant when
8 determining or applying the total customer cost test to
9 a demand management program or when evaluating it? Why
10 should that issue be relevant?

11 MS. FRASER: A. Well, the benefit is
12 really the net impact in terms of what our program has
13 achieved, so that net impact nets out the free riders
14 because they would have done it anyway. So, what we
15 essentially do is allocate all the costs, including any
16 of the program costs with respect to the free riders
17 and sort of charge it against the net impact of the
18 program as opposed to the total impact including free
19 riders.

20 Q. But is that a very relevant
21 consideration when applying the total customer cost
22 test?

23 A. The incentives per se are not
24 included in that calculation, so that part is not
25 relevant, no. It's certainly used in the other tests.

1 THE CHAIRMAN: But your 5200 projection
2 or forecast does not include free riders?

3 MS. FRASER: That's right. They have
4 been netted out in that calculation.

5 MS. COUBAN: Q. But isn't it fair to say
6 that if a demand management program is economic, then
7 why would one worry about the free riders?

8 MS. FRASER: A. Well, we could take the
9 hypothetical example that let's say you had a program
10 you wanted to put into place but 100 per cent of the
11 participants were going to be free riders. Would it
12 really be cost effective for Ontario Hydro to spend the
13 program development and delivery costs and
14 administration costs to achieve something that was
15 going to happen anyway? On top of that, we have then
16 just transferred the incentives from the ratepayers to
17 the participants for no reason. So, if you take that
18 extreme, it's important.

19 Q. You did make reference to the Boston
20 conference that you attended. Would you agree that the
21 consensus among the U.S. or the other utilities at that
22 conference was that if a program is economic then one
23 should not worry about the free riders? Was that the
24 consensus at that conference?

25 A. I don't remember a lot of discussion

1 about free riders at this conference. The conference
2 two years ago in Cincinnati, there was a lot more
3 discussion of free riders. And quite frankly my own
4 sort of personal view of the U.S. utility discussion of
5 free riders is it used to be an excuse not to do demand
6 management because it did such a distortion of the cost
7 of benefits.

8 I think in terms of the sessions at least
9 I attended, and there were concurrent sessions for it
10 at each time, there wasn't a lot of discussion of free
11 riders. And I guess what I took from that in terms of
12 sort of my analysis of what was going on is that they
13 had moved passed that and realized the value of doing
14 demand management, as we do.

15 Q. I believe you did say that Ontario
16 Hydro considers the aspect of free riders when
17 evaluating --

18 A. Oh, certainly, yes. And I think if
19 there are ways that we can design a program to minimize
20 the number of free riders, then that just makes it all
21 the more cost effective in terms of what we are doing.
22 And then we can, instead of paying people that would
23 have done it any way, we can take that money and pay
24 the ones who wouldn't have done it more. So, it's
25 really just a way of maximizing the economic benefit

1 and maximizing the amount of demand management we can
2 get.

3 It hasn't stopped us from doing any
4 programs at this point.

5 MS. PATTERSON: And you don't consider
6 the governments free riders if you give them incentives
7 to actually act on your audits?

8 MS. FRASER: No, not at this point.
9 (laughter).

10 MR. WILSON: I might add that two years
11 ago, when we were doing some long-range planning, we
12 had assumed that the energy policies of both the
13 federal and provincial governments would induce them to
14 pursue efficiency within their own operations as
15 aggressively as we hoped we could get everyone else to
16 do it.

17 But they have suffered the same kinds of
18 constraints of cash and time and so on. And it became
19 evident to us that they were going to have the same
20 problems of getting going that we saw everyone else
21 having. So, we relaxed that prohibition on incentives
22 to federal and provincial governments and I think it
23 was the right step to take.

24

25

...

1 [12:35 p.m.] MS. COUBAN: Q. Mr. Burke, some
2 questions about potential total EEI. I believe that
3 you have told us that Ontario Hydro divides potential
4 total EEI into two parts; one being natural EEI
5 improvements or natural EEI and potential induced EEI.
6 And that you have also put government programs into the
7 natural EEI category.

8 Why are government programs included in
9 that category?

10 MR. BURKE: A. This goes back to the
11 definition of the basic load forecast which was
12 discussed in Panel 1. The natural EEI is implicit in
13 the basic load forecast and the basic load forecast is
14 intended to cover the expected demand for electricity
15 that will arise in Ontario other than through the
16 actions of Ontario Hydro itself.

17 So, essentially, where we know about
18 government standards and programs and what their impact
19 will be in future, we build it into the basic load
20 forecast. And the difference between the basic and the
21 primary is supposed to represent the impact that
22 Ontario Hydro itself through its actions is having on
23 the demand for electricity in Ontario.

24 I think the issue will get, well, less
25 straightforward as we move through a period where the

1 government talks about intentions for standards and
2 intentions perhaps in the area of fuel switching and we
3 don't have specific standards or policies to work with.
4 There may be times where we capture those intentions in
5 things like the scenarios for demand management that
6 are contained in Exhibit 258 and they don't show up
7 explicitly in the basic load forecast.

8 We essentially have said that until we
9 have something pretty concrete to work with, some
10 fairly prescriptive standard, we can't really roll it
11 into a load forecast.

12 Any speculation about future government
13 standards we will essentially leave to the demand
14 management component that we subtract from the basic to
15 get the primary.

16 Q. So, do you believe that government
17 programs or government action has a role in the
18 potential induced EEI?

19 A. Well, in the case of EEI alone, the
20 government does not affect the potential for induced
21 EEI; it affects the attainable portion of that
22 potential.

23 Q. Okay. Mr. Shalaby, I have some
24 questions to you, I believe, about the total customer
25 cost test.

1 Mr. Shalaby, you told us that Ontario
2 Hydro decides if a demand management measure is cost
3 effective if it costs less than the alternative supply
4 option and you use the total customer cost test to
5 determine that; is that correct?

6 MR. SHALABY: A. Yes.

7 Q. And if a demand management measure
8 passes that test, then it will be screened further by
9 program design?

10 A. Yes.

11 Q. And I believe that that was
12 illustrated by page 7 of Exhibit 260, the overhead
13 package.

14 That indicates the total customer cost
15 test is the screening mechanism and then further tests
16 are screening for the program design.

17 A. Yes.

18 Q. Now, in discussing potential for
19 demand management in the province, Mr. Burke stated
20 that with respect to the residential sector, air
21 conditioners were not included because they do not
22 contribute to winter peak.

23 And the specific quotation is in
24 transcript Volume 47, page 8491, where perhaps, just to
25 put it in context, I will read Mr. Campbell's question

1 on that page starting at line 10.

2 "Q. All right. Then how is the
3 analysis of EEI potential done
4 in carrying this through for the
5 residential sector?"

6 And the answer, Mr. Burke gave was:

7 "A. The opportunities for EEI in the
8 residential sector are of two basic
9 types: There are opportunities that
10 relate to the buildings themselves
11 essentially, the thermal envelope and the
12 heating system, and opportunities that
13 relate to the appliances and other
14 equipment in the buildings, like water
15 heaters and lighting. No
16 air-conditioning measures were included
17 in this analysis as they do not
18 contribute to reducing winter peak."

19 That quote ends at line 22 of page 8491.

20 Was the total customer cost test applied
21 to screen that appliance - that is, air conditioners -
22 or was it not included for some other reason?

23 A. That is in determining potential; is
24 that your question?

25 Q. That is correct, yes.

1 A. Or in programs?

2 Q. Yes, in potential, or you can answer
3 in potential and programs if you wish.

4 A. I am looking at Exhibit 25 and
5 perhaps 76. I don't know the answer to that, sorry.
6 I don't know if Mr. Burke would know.

7 Q. So, you don't know whether the total
8 customer cost test was applied to that particular
9 appliance?

10 A. Not offhand.

11 Q. Okay.

12 MR. BURKE: A. I think I could check
13 that for you. My understanding is it was not.

14 Q. Okay. Why would it not be applied?

15 A. I think it would have been presumed
16 that without capacity benefits, the economics of an
17 efficiency improvement measure in the summertime would
18 not pass, so it was essentially screened prior to the
19 analysis.

20 DR. CONNELL: In effect, Mr. Burke, the
21 avoided cost would be extremely low; is that right?

22 MR. BURKE: Yes, that was the assumption.
23 I guess it might be nice to actually run a test to
24 confirm that, but that is certainly our expectation.

25 And I believe that more recently, the

1 energy management people have screened chillers for the
2 commercial sector with the total customer cost test and
3 found these not to be economic for Ontario Hydro; is
4 that correct?

5 MS. FRASER: No, even when they is -- my
6 understanding with respect to thermal cool storage,
7 even when it is only a summer reduction, there are
8 enough energy benefits; however, the load profile of
9 commercial cooling is so much different than the load
10 profile of residential cooling that --

11 MR. BURKE: I mean just summer
12 applications.

13 MS. FRASER: Just summer applications, I
14 would have to check that.

15 DR. CONNELL: Just an observation, that
16 if you are enormously successful in demand management
17 with winter peak options, you may find you become a
18 summer peak utility.

19 MR. BURKE: This is an issue that the
20 utility is concerned about and is monitoring closely
21 and it is not a simple issue to resolve in the sense
22 that it may not just simply be a matter of whether we
23 peak in the summer or the winter, but there are other
24 issues concerning maintenance and so on that have to be
25 done sometime during the year and so the planners are

1 looking at this question, especially with the fuel
2 switching.

3 DR. CONNELL: The numbers in the DSP - I
4 think they are 1988 - there was only about four
5 gigawatts difference at that time.

6 MR. BURKE: There is typically about a 15
7 per cent difference between the summer peak and the
8 winter peak and the basic load forecast would not
9 project that to change much over the planning horizon,
10 Despite a significant increase in the market share of
11 air-conditioning in the Ontario marketplace.

12 But clearly, with all this fuel switching
13 especially, we will have to re-examine that and check
14 the avoided costs and look again at air-conditioning.

15 Maybe this is a good point for me to just
16 step back to the question you asked before about
17 whether potential induced EEI could be changed by the
18 government. And it occurs to me afterwards that, yes,
19 definitionally, if, as the standards become defined,
20 you would observe that my estimate of potential induced
21 EEI would fall - the emphasis being on the induced
22 portion - the potential for energy savings remains the
23 same, but the induced portion would fall as government
24 standards become concrete and are included in the load
25 forecast.

1 MS. COUBAN: Q. Thank you. Moving to a
2 new area, I believe these questions are appropriately
3 directed to you, Mr. Wilson.

4 If we could refer again to the government
5 review, Exhibit 146, page 14 of the Ministry of
6 Energy's comments. And I would like to call this
7 heading "new approaches" and start off by reading the
8 top paragraph of the Ministry of Energy's Comments in
9 the government review, where it states:

10 "In light of the efforts being made in
11 other parts of the world to raise
12 efficiency in electricity use, the
13 Ministry believes that Ontario Hydro
14 should consider whether more load
15 reduction can be achieved through more
16 innovative approaches for increasing
17 energy efficiency.

18 "Possibilities for this would include
19 bidding systems that treat conservation
20 as a supply resource, modification to the
21 rate structures, and programs to
22 encourage the substitution of other fuels
23 for electricity where this is in the
24 customers' and the province's long-term
25 interests."

1 If we could deal first with bidding
2 systems which, as the Ministry of Energy's Comments
3 states, treat conservation as a supply option.

4 Mr. Wilson, are you familiar with such
5 bidding systems?

6 MR. WILSON: A. I don't have direct
7 experience with this, but Ms. Fraser does. Perhaps she
8 can answer this.

9 Q. Okay.

10 MS. FRASER: A. Well, I am familiar with
11 bidding systems. We don't have any direct experience
12 in them.

13 Q. Okay. Does Ontario Hydro presently
14 use bidding systems?

15 A. For demand management, we do not.

16 Q. Okay. Is Ontario Hydro aware of the
17 experience of other utilities with such a system for
18 demand management?

19 A. Yes. We have been following very
20 closely the experience in the U.S. with respect to
21 demand side bidding.

22 Our knowledge of bidding to date has lead
23 us to pursue an alternative approach that I described
24 yesterday called the "guaranteed energy performance
25 program" to work with energy service companies who are

1 usually the respondents in any kind of a bidding
2 process as an alternative, because our research with
3 respect to U.S. programs indicated that the jury was
4 still out.

5 Going back to the Boston conference
6 again, one of the few examples which popped up in one
7 session I attended there is that part of the jury has
8 come in and we are seeing an antagonistic kind of
9 relationship develop between energy service companies
10 and utilities because of the way in which some bidding
11 programs are being operated and as yet, I don't believe
12 there are any megawatt savings that have been delivered
13 from a demand side bidding program in the U.S.

14 Research that we did a year ago indicated
15 the one that had got through the bidding process had
16 decided it would not try to do it again. The rest of
17 them are all still going through the various mechanisms
18 in terms of the various stages of that process.

19 Q. So, Ontario Hydro has evaluated the
20 costs, the risks and the benefits of such a system for
21 itself; would that be correct?

22 A. We looked at it. We decided to
23 choose the alternative of a negotiated approach with
24 the energy services companies. We have not ruled it
25 out in the long term. Depending on both the experience.

1 we gain from the guaranteed energy performance program
2 and if we do see some more encouraging signs from the
3 U.S. utility experience, I think perhaps there may be
4 some opportunities to use it in targeted areas and
5 things like that.

...

1 [12:50 p.m.] Q. Would you agree that the use of a
2 bidding system would likely stimulate the growth of
3 energy service companies or ESCOs?

4 A. Again, going back, and it's really
5 just a sample of a few in terms of the Boston
6 conference, is that the energy service companies are
7 quite upset that they are sort of being called upon to
8 invest a fair bit of money in putting these proposals
9 together. For instance, one utility had put out a
10 request for proposals in excess of 100 megawatts and
11 got a number of energy service companies very
12 interested in putting proposals together, from what I
13 understand, put somewhere between 50 and \$100,000 into
14 this proposal. The utility ended up taking less than
15 20 megawatts of those submitted proposals, and
16 including taking some from customers that were at a
17 much, much higher cost than what the energy service
18 companies were delivering.

19 What I saw is because of the incentive
20 mechanisms that are being developed to encourage U.S.
21 utilities to pursue demand management, that U.S.
22 utilities were starting to see energy service companies
23 as competitors rather than as a complementary activity.
24 The energy service companies that I talked to following
25 the conference in Boston, when I explained the approach

1 that we were taking in the guaranteed energy
2 performance program, they were quite excited and have
3 since followed up with phone calls and discussions in
4 terms of looking at the Ontario opportunities.

5 Q. Has Ontario Hydro looked beyond the
6 North American experience with such a system?

7 A. There was a study done, sort of a
8 scanning study of European activity and it was filed,
9 in response to one of the interrogatories, I am afraid
10 I don't have the reference right now. I can get it for
11 you, if you wish, at lunch.

12 MS. COUBAN: That will be fine, thank
13 you.

14 I am getting into another subsection of
15 this area, Mr. Chairman, it may be appropriate to take
16 the break now, if that's agreeable.

17 THE CHAIRMAN: We will take the break now
18 and come back at 2:30.

19 MS. COUBAN: Thank you.

20 ---Luncheon recess at 12:53 p.m.

21 ---On resuming at 2:30 p.m.

22 THE CHAIRMAN: Be seated, please.

23 MR. B. CAMPBELL: Mr. Chairman, in this
24 morning's cross-examination, Ms. Fraser referred to a
25 scan study of international demand side management

1 activity as having been filed in relation to an
2 interrogatory and was to give that interrogatory
3 number. I didn't actually believe this was possible,
4 but as it's turned out this particular piece of paper
5 has not been filed with an interrogatory. So, having
6 been referred to, I have supplied Ms. Couban with a
7 copy, and if I could get an exhibit number for this, I
8 will make copies and distribute them in due course to
9 both the Board and the other parties. I have spoken
10 with Ms. Couban about this, it's satisfactory with her.

11 THE CHAIRMAN: 266.

12 MR. B. CAMPBELL: And it's a report done
13 by Marbek Consultants entitled, "A Scan of
14 International DSM Activity, Final Report."

15 I might just note in passing that Marbek
16 Consultants are also the lead consultants in the demand
17 management area for the City of Toronto.

18 ---EXHIBIT NO. 266: "A Scan of International DSM
19 Activity, Final Report", by Marbek
20 Consultants.

21 MS. COUBAN: Thank you, Mr. Chairman.

22 Q. Before the break, Ms. Fraser, we are
23 discussing new approaches that Ontario Hydro could take
24 to demand management activities, and specifically we
25 were dealing with bidding systems. One final question
before we leave that particular approach, I believe

1 that you noted that the experience with the bidding
2 system in the United States has suggested, at least to
3 a certain extent, an antagonism developing between
4 ESCOs and the utilities; is that correct?

5 MS. FRASER: A. That's what I saw
6 evidence in Boston. I wouldn't want to generalize to
7 the whole U.S. market based on a sample, but it was
8 more than one ESCO and more than one utility.

9 Q. Could that not be a result of those
10 U.S. utilities likely being investor-owned or
11 privately-owned utilities?

12 A. I would have to look to see which
13 utilities they were, so I wouldn't want to make any
14 speculation on that.

15 Q. Would that involve a lot of work for
16 you to find out, whether those particular utilities
17 were investor-owned or not?

18 A. No, I have the proceedings, I could
19 just look up to see which ones that they were referring
20 to.

21 Q. Perhaps you could get back to me with
22 that.

23 THE CHAIRMAN: Let's suppose that they
24 were investor-owned, in your view would that make any
25 difference to the problem?

1 MS. FRASER: No, I was basically just
2 commenting on a phenomenon that I had seen.

3 Basically, the approach that we are
4 taking, which was a very much more complementary
5 approach to energy service companies, and we developed
6 our program in concert with the Canadian Association of
7 Energy Service Companies, on which I sit as a member of
8 the board of directors, I think, you know, will allow
9 for a development of that industry as opposed to
10 competition with the industry. That was really the
11 only point that I was making.

12 MS. COUBAN: Q. Fine, thank you.

13 Moving on to another potential approach
14 that I would like to discuss with Ontario Hydro, I am
15 not sure who this should be appropriately directed to,
16 but my question is whether Ontario Hydro has considered
17 the approach of community based decentralized
18 conservation programs. Is any member of the panel
19 familiar with such programs?

20 MS. MITCHELL: A. Yes, I am. We are
21 currently conducting a program in the town of Espanola
22 which the purpose is to investigate the delivery
23 approach using a community based type of program.

24 This initiative was designed to promote
25 energy efficiency in smaller Ontario communities and to

1 look at bringing about a cultural change using all
2 elements within a community, which would include
3 municipal government, the utility, as well as social
4 clubs, et cetera, and trying to bring about a cultural
5 change using all of those elements.

6 Q. How long has Ontario Hydro been
7 looking at that type of an approach?

8 A. It's currently underway and it should
9 be completed within the next year, at which time we
10 will be looking at the results to evaluate further use
11 of that approach.

12 Q. Is this an approach that has been
13 limited to the residential sector or has it been looked
14 at with respect to other sectors as well?

15 A. Well, the test market that's
16 currently being undertaken right now in the Town of
17 Espanola is strictly residential at the moment, and I
18 am not aware of any other programs.

19 MS. FRASER: A. I believe that also
20 includes small commercial buildings, but there are not
21 a lot of them in Espanola.

22 MS. MITCHELL: A. No.

23 Q. Could you confirm that these types of
24 programs are not currently a factor in the present
25 demand management programs of Ontario Hydro? Would

1 that be a fair statement?

2 A. I'm sorry, I don't understand your
3 question.

4 Q. Has Ontario Hydro included such
5 programs in its demand management programs, or in its
6 demand management plan that's before the Board?

7 A. No. We will be waiting to see
8 whether or not this test is successful.

9 Q. Do you know how long it will take
10 before the results of that testing are available?

11 A. I believe I said in approximately a
12 year.

13 Q. Yes, okay.

14 Another approach I would like to discuss
15 with you is the direct investment approach. I believe,
16 Ms. Mitchell, that yesterday you told us about Ontario
17 Hydro's efforts in this regard with respect to the
18 residential sector, and I believe you specifically gave
19 the example of tune-ups of water heaters. Is Ontario
20 Hydro considering using this technique of direct
21 investment in sectors other than the residential sector
22 and in the residential sector by means other than the
23 water heater tune-up program?

24 A. Well, I will only speak for the
25 residential sector. I believe I mentioned in my direct

1 evidence yesterday that we do indeed have a water
2 heater tune-up program which is currently going to be
3 expanded to an all-inclusive home tune-up program which
4 will expand on not only on water heater improvements,
5 efficiency improvements, but also to include lighting
6 and weather-stripping and caulking activities as well,
7 and that is planned to commence in 1992.

8 Q. And with respect to the commercial
9 and industrial sectors, Ms. Fraser?

10 MS. FRASER: A. Yes, I spoke yesterday
11 about the non-profit housing program, the retrofit
12 program we are paying 100 per cent of the total project
13 costs for lighting, retrofits, air leakage control and
14 water heater improvements, as well arranging for the
15 contractors to do that, and that's what we consider a
16 direct installation program.

17 Depending on the results of that program,
18 although we won't wait until the program is over to see
19 the total lay of the land, but we are looking at that
20 approach in terms of small commercial buildings.

21 Q. Now, I understand that Ontario Hydro
22 has in the past insisted that certain conditions be met
23 by potential recipients of programs that they have
24 offered, and if I could provide you with an example.
25 In the 1960s, or thereabouts, Ontario Hydro had a

1 program, called the Gold Medallion Program, whereby, as
2 I understand it, Ontario Hydro would not hook up a
3 residents unless the insulation in that residence met a
4 certain standard, referred to as the Gold Medallion
5 standard. Has Ontario Hydro considered this kind of
6 mechanism to encourage demand side management measures
7 since that Gold Medallion program 30 years ago or so?

8 MS. MITCHELL: A. It is currently being
9 considered, which under the new guidelines and the new
10 policies that we anticipate, we may be allowed that
11 flexibility. But in terms of demand management
12 programs to date, we have not considered such an
13 approach.

14 Q. Does that also go for the commercial
15 and the industrial sectors, Ms. Fraser?

16 MS. FRASER: A. In the commercial sector
17 we are looking at variations on that theme, but I
18 wouldn't say we have gotten much further than to say we
19 are looking at it.

20 Q. Thank you.

21 MR. WILSON: A. Ms. Couban, I am not
22 sure I have my facts straight, but my understanding is
23 that the Gold Medallion home arrangement was that it's
24 not that Ontario Hydro would refuse to connect the home
25 unless it was designed to meet one of our standards,

1 but if you were going to heat that home with
2 electricity, you wouldn't qualify for a special low
3 electric heating rate which was available to you if you
4 insulated the house to high standards.

5 So, I don't believe we have ever refused
6 service to a customer if they failed to meet our
7 efficiency standards. We haven't yet to my knowledge
8 and I don't think we are planning to do that now.

9 Q. Thank you for the clarification.

10 If I could discuss with you Ontario
11 Hydro's relationship with municipal utilities in the
12 context of demand management. Ontario Hydro has said
13 in a number of places, and specifically I have one
14 reference in Exhibit 3 - I don't think you have to turn
15 to it - page 7-23, where one of Ontario Hydro's general
16 program strategies is working with municipal utilities
17 and the MEA to develop and deliver an effective
18 portfolio of demand management programs.

19 Has Ontario Hydro ever reviewed the
20 conservation or demand management programs of municipal
21 or public utilities? I am not sure who should answer
22 this question.

23 MS. FRASER: A. Reviewed the demand
24 management programs?

25 Q. Yes.

1 A. I am not familiar with any municipal
2 utility's specific demand management programs in terms
3 of providing incentives.

4 Various utilities have customer service
5 programs which provide them with information,
6 residential audits, things of that sort. We are
7 familiar with them in a general way. Different
8 utilities have been more active than others, and so on,
9 that's part of the diversity I talked about yesterday.

10 Q. So, Ontario Hydro has had some input
11 or some review of what the municipal utilities have
12 been doing with respect to --

13 A. I would say that we are aware of some
14 of them. For instance, North York Hydro sent me their
15 binder with all their materials in it. We do not
16 review their programs per se.

17 Q. Why is that? Why is it that Ontario
18 Hydro will not review the programs, the demand
19 management or conservation programs of the municipal
20 utilities?

21
22
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...

1 [2:45 p.m.] A. Review them to what end? I don't
2 quite understand what you mean by the word "review".

3 Q. Evaluate the programs?

4 A. From a cost/benefit point of view
5 or...?

6 Q. From a number of points of view.
7 Possibly from a cost/benefit point of view but in terms
8 of what the utilities are doing in terms of demand
9 management. Just generally.

10 A. Well, we work with various utilities
11 in various ways. I talked yesterday about some of the
12 joint plans that are developed by our field staff with
13 their local utilities. And I can't speak to what our
14 local field offices have done in terms of looking at
15 the utility programs.

16 In terms of our evaluation and screening
17 group, they have not come in in a formal way and been
18 analyzed per se, no.

19 Q. Has Ontario Hydro ever considered
20 encouraging these utilities to come forth with
21 conservation programs, assisted them in coming forth
22 with conservation programs?

23 A. We work with the municipal utilities
24 in a whole host of ways in terms of trying out various
25 projects. Guelph, I believe it is Guelph Compact

1 Fluorescent Leasing brought that idea to us. We looked
2 at it from the total customer perspective and got very
3 involved. It is really now, essentially, a joint test
4 between Guelph Hydro and ourselves in terms of the
5 potential of leasing compact fluorescent lights. So,
6 from that point of view, yes, absolutely. Bring us the
7 ideas and we will try them out and see what happens,
8 sure.

9 Q. I understand that Ontario Hydro
10 enters into contracts with the municipal utilities for
11 wholesale supply of electricity; is that correct?

12 A. That's not my area of expertise.

13 Q. Would that be you, Mr. Harper?

14 MR. HARPER: A. Yes, it would actually
15 as much as anybody else on the panel. It's not
16 directly my area either. I believe we used to enter
17 into contracts, I think they were 40-year contracts,
18 with municipal utilities for supply. I don't believe
19 we do so anymore. A number of the old contracts have
20 lapsed. Some of them may still be in effect; it
21 depends on when the original contract was signed.

22 Q. Are you aware of any municipal
23 utilities that promote the use of certain appliances,
24 specifically electric water and electric space heaters?

25 MS. MITCHELL: A. No, I am not aware of

1 any that are currently doing so.

2 Q. If we could refer to Exhibit 69,
3 which is the review by government ministries --

4 THE CHAIRMAN: Are you saying there are
5 such organizations? That there are municipal utilities
6 who do promote these things?

7 MS. COUBAN: No, I am not aware of any.

8 THE CHAIRMAN: When you are asking a
9 question, you are suggesting that there is such a
10 thing.

11 MS. COUBAN: No, I am trying to find out
12 what the answer was, Mr. Chairman. I was not
13 attempting to suggest that there was a particular
14 answer. I was not aware of the answer.

15 THE CHAIRMAN: All right. You are not
16 aware of any yourself?

17 MS. COUBAN: No. Personally, I am not.

18 Q. Exhibit 69, the review by government
19 ministries of Ontario Hydro's draft demand/supply
20 planning strategy. Specifically if we could look at
21 page 15. And this is page 15 of the Ministry of
22 Energy's comments on its review of Ontario Hydro's
23 draft DSPS.

24 And on page 15 under the heading
25 "Co-ordination of Activities", the Ministry of Energy's

1 comment was:

2 Demand management activities will be
3 co-ordinated by the government and
4 implemented by the municipal utilities,
5 Ontario Hydro, government ministries, and
6 other agencies. In particular, customer
7 contacts and operational experience of
8 the municipal utilities will be valuable
9 assets in delivering conservation
10 initiatives.

11 And further on on that same page under
12 the heading "Demand Management Treatment in the DSPS",
13 the first paragraph, two-thirds of the way down, the
14 sentence beginning "Similarly.... States:

15 Similarly, the Ministry supports the
16 intention to closely co-operate with
17 municipal utilities in developing and
18 implementing demand management programs.

19 Has Ontario Hydro ever considered making
20 some or all of the contracts it has with municipal
21 utilities conditional on those utilities achieving or
22 coming forth with certain types of demand management
23 activities.

24 MR. B. CAMPBELL: I think Mr. Harper's
25 answer was that there used to be contracts. They are

1 lapsing and it is not currently now the practice to
2 enter into contracts of that type. The power is simply
3 provided pursuant to the provisions of the Act. The
4 contracts are not a thing that are being used
5 currently.

6 THE CHAIRMAN: The question, I think, is
7 have they ever considered entering into a contract
8 which has that kind of condition in it and I think they
9 should answer that.

10 MR. B. CAMPBELL: I'm sorry, I took it as
11 in the context with respect to kinds of long-term power
12 supply contracts that Mr. Harper said. I'm sorry if I
13 have misunderstood.

14 MS. COUBAN: No. It was whether Hydro
15 has considered that type of a contract.

16 MS. FRASER: What we are considering and
17 this is being worked out --

18 THE CHAIRMAN: First of all, are you
19 considering that type of contract? And then if there
20 is any, you can tell what you are considering.

21 MS. FRASER: We are not considering it as
22 part of the supply contract for the reasons that Mr.
23 Harper indicated that those are lapsing. What we are
24 considering, and I talked about this both yesterday and
25 this morning, in terms of our work with the 30 largest

1 utilities and we are in the process of -- there is a
2 large utility task force that has been struck with
3 representatives of Ontario Hydro and representatives of
4 the large utilities.

5 They are working out a memorandum of
6 understanding which would be struck between individual
7 utilities and Ontario Hydro in terms of delivering of
8 demand management. Those things are still in the
9 discussion stage and still in the draft stage, but we
10 are pretty keen on what that can do for demand
11 management.

12 MS. COUBAN: Q. Mr. Harper, did you want
13 to add anything?

14 MR. HARPER: A. No. That's correct.

15 Q. If I could move on to the area of
16 peak clipping and certain techniques that Ontario Hydro
17 could possibly use with respect to peak clipping or
18 perhaps is using.

19 What opportunities has Ontario Hydro
20 considered with respect to peak clipping in the
21 residential and commercial sectors?

22 A. With respect to the residential
23 sector, a number of years ago we undertook some load
24 management field trials looking at the potential of
25 controlling either water heating or space heating loads

1 within residences during the peak period and shifting
2 that load to the off-peak period for means of storage.
3 Generally, this implied either storage furnaces or
4 perhaps much larger water heaters in order to allow the
5 water to be heated at night and then supplied to the
6 customer during the day.

7 Again, I was not directly involved in the
8 analysis and I am just trying to recall if I could
9 remember what the results were, whether the results of
10 that would be included in the PCRD.

11 MS. FRASER: A. I'm sorry, I didn't
12 understand you to be asking about load shifting.

13 Q. I was asking about peak clipping.

14 A. Peak clipping?

15 Q. Yes, that's correct.

16 A. In my knowledge, the only thing we
17 are looking at in terms of peak clipping is the
18 capacity interruptible rates or the discount demand
19 service that that Mr. Harper went into details on
20 yesterday.

21 Q. Well, with respect to the commercial
22 sector, for example, has Ontario Hydro considered the
23 possibility of having receivers added to the T8 ballast
24 lighting that you have spoken of to allow Ontario Hydro
25 to dim the lights and therefore control the use of

1 electricity at peak demand? Has that been considered?

2 A. Dimmable ballasts are not yet on the
3 market here in Canada and I don't believe -- they are
4 not commercially available in the United States either.
5 They are expected with the next year-and-a-half, so we
6 have not considered, for the present, dimming T8
7 fluorescent lamps, no.

8 Q. What about before the year 2000? Has
9 Ontario Hydro considered that kind of a technique,
10 assuming they are not available now and I certainly
11 take that point.

12 A. We haven't explored that. No, we
13 haven't.

14 Q. What about with respect to the
15 residential sector, Ms. Mitchell, has Ontario Hydro
16 considered the possibility of controls on residential
17 heat pumps that have a back-up of an oil or a gas
18 furnace which could be used to control peak levels of
19 demand? Has that kind of a technique been considered?

20 MS. MITCHELL: A. Well, I am not sure
21 that a heat pump is a good example to use because
22 normally speaking it would shut off and your back-up
23 fossil fuel would come on at the coldest times, which
24 would be the peak time.

25 We have not considered a load control

1 program for Ontario Hydro customers recently, since
2 that would involve -- most of our electric customers
3 are located in rural areas and we don't have any load
4 control systems for our area customers. Other
5 residential customers with electric heating would fall
6 within municipal boundaries and it would be up to the
7 municipal utility to exercise peak clipping activities.

8 Q. If I could move on to another area.
9 Mr. Wilson, I believe these should be directed to you
10 or to you, Mr. Harper.

11 The chairman of Ontario Hydro has made it
12 clear publicly and in fact you referred to this this
13 morning, Mr. Wilson, that there will be substantial
14 rate increases in the next few years. In fact, Mr.
15 Wilson, I think you I described them this morning as
16 double digit increases.

17 Could you tell us how these increases in
18 rate structures provide Ontario Hydro with
19 opportunities to increase demand management measures or
20 achieve better penetration rates, if you could be
21 specific.

22 MR. WILSON: A. I think the point I was
23 making this morning was that when people are confronted
24 with a rising cost for the electricity they buy, they
25 become more attentive to anyone who comes to their door

1 and says, "I have a way of saving you some money."
2 That I think may provide some improvement of
3 opportunities or people's attentiveness or receptivity
4 to our programs in the next year or so.

5 I can't say that we have calculated the
6 impact of that on penetration rates in the next two
7 years exclusively. It's built into our current plans.

8 Q. How is Ontario Hydro though going to
9 take advantage of that opportunity of increased rate
10 structures with respect to its demand management
11 targets or its demand management programs?

12 A. To take advantage of it would be a
13 matter of program design.

14 MS. FRASER: A. We will play a
15 significant role in terms of say presentations to
16 customers and helping them do their own cost/benefit
17 analysis of particular projects. Obviously those rates
18 are higher. It means the paybacks will be shorter.

19 And to the extent which a customer is
20 looking at particular paybacks, then that can make a
21 difference there and obviously that will be used by our
22 field staff in presentations, particularly to
23 industrial customers. In cases, for instance, in new
24 construction and commercial, where the benefit of the
25 energy savings and therefore the impact of rate

1 increases does not accrue to the developer developing
2 the building, it will have no impact at all.

3 So, again, it's an area where,
4 understanding the market, we will use that information
5 where it is appropriate. But yes it does change
6 payback calculations quite a bit.

7 MR. BURKE: A. Could I just add
8 something to that. The major effect of the price
9 increase is not going to be on the demand management
10 programs per se but on what we call basic load, the
11 underlying demand for electricity, and that's taken
12 into account in the load forecast. So, with changes in
13 prices we will revise the load forecast reflecting the
14 price elasticities and so on that we discussed in Panel
15 1.

16 The load forecast did have implicit in it
17 rate increases, not quite as high as the Chairman has
18 been talking about but fairly high rate increases
19 nonetheless in the first few years of the load forecast
20 period, so that the sort of change we are looking at in
21 terms of rate increase above and beyond what is already
22 reflected in the 1990 load forecast is of the order of
23 several per cent per year.

24
25 ...

1 [2:59 p.m.] And that remains to be seen, whether the
2 short-term rate increases, in fact, tend to lead to
3 lower rates later on or whether, in fact, they are just
4 an increment at the front end which is never offset
5 later on.

6 So the issue, I would submit, for
7 planning purpose is largely the extent to which the
8 underlying load forecast has changed.

9 It should, as the other panel members
10 have indicated, make the amount of natural conservation
11 increase. It should also render some measures -- well,
12 unless avoided costs themselves change in the next
13 while, and, in fact, somehow these rate increases are
14 reflecting changes in Hydro's cost structure, but
15 unless the avoided costs change, we wouldn't expect to
16 find the potential for EEI measures to increase. So
17 that if anything, what one would expect to see at the
18 end is a reduction in the induced EEI and an increase
19 in the natural EEI.

20 Q. I think the responses have been
21 somewhat general. My question was somewhat more
22 specific and that is, whether Ontario Hydro has
23 specifically evaluated the impacts or the advantages
24 that could possibly accrue in the demand management
25 context to them as a result of rate increases.

1 And one could assume that one would have
2 the customer's attention by substantial rate increases
3 which could likely or possibly lead to increased demand
4 management possibilities. And I would like to know
5 what, specifically, Ontario Hydro has done to evaluate
6 those possibilities.

7 A. I guess I am disagreeing with the
8 premise of your question, Ms. Couban, because
9 essentially, the effect of increased price colours all
10 responses by customers to decisions they make about
11 electricity demand.

12 And when we evaluate conservation
13 opportunities, we are looking at those things that are
14 cost effective from the total customer cost test but
15 which do not make it in the marketplace today given the
16 various decision criteria that customers are using
17 today.

18 So clearly, if you raise the price, you
19 will affect the amount that customers will decide to do
20 naturally and increase that amount, but it does not
21 change, as I said before, what potential is out there
22 unless at the same time their avoided costs are
23 increasing. So, it isn't really a feature that affects
24 programs directly.

25 Q. What about the effect on penetration

1 rates?

2 A. Strictly speaking, I would expect
3 penetration rates to go down from programs unless the
4 programs continue to pursue measures that had become
5 natural.

6 MS. FRASER: A. Perhaps I could give you
7 an example of how that would work: Our industrial
8 program accelerated paybacks provides incentives to
9 customers to bring the payback of a particular energy
10 saving project in an industrial plant down to 1-1/2
11 years; however, if the payback for the project turns
12 out to be less than 1-1/2 years, then we don't provide
13 an incentive for it.

14 So, this year under current rate
15 conditions, let's say that the project would be just
16 slightly over 1-1/2 years, then we would provide an
17 incentive to bring it down to 1-1/2 years.

18 With, for instance, a 10 per cent rate
19 increase, we might have the effect of bringing it down
20 below 1-1/2, in which case it would be considered a
21 natural conservation and not be considered induced.
22 And that is exactly what Mr. Burke was talking about
23 when he said the penetration rates would go down.

24 Q. Would a one-year payback period as
25 opposed to a 1-1/2 year payback period make it more

1 attractive?

2 A. What we found in industrial is that
3 projects with less than a year, year-and-a-half
4 payback, they will implement them. They don't need an
5 incentive to do it. So, of course, it is attractive,
6 and that is why we buy it down to the year-and-a-half.
7 We buy things with as long as as a five-year payback
8 down to a year-and-a-half.

9 Q. Okay. I would like to move on to a
10 new area. I will call it environmental effects on the
11 demand management program. I would like to begin by
12 referring to page 7-7 of Exhibit 3.

13 MS. PATTERSON: What page is that again?

14 MS. COUBAN: Page 7-7.

15 Q. On page 7-7, the third full paragraph
16 on that page begins with the statement:

17 "The environmental characteristics of
18 demand management options themselves have
19 not been scrutinized as extensively as
20 supply options."

21 And it goes on to say:

22 "Some of the potential environmental
23 effects relate to the manufacture of
24 energy-efficient equipment and to the
25 disposal of inefficient equipment."

1 Is Ontario Hydro intending to do further
2 studies with respect to the demand management options
3 given that it appears they have not been - that is, the
4 environmental characteristics of those demand
5 management options - have not been scrutinized as
6 extensively as the supply options?

7 MR. WILSON: A. Yes.

8 Q. And when does it intend to do those
9 studies?

10 A. A number have been done since the
11 time this report was written in the fall of 1989.

12 Q. Could you give me some examples of
13 some of that information?

14 A. Well, among the material that you
15 wanted to refer to this afternoon, there is our
16 response to your Interrogatory 4.32.13.

17 And in response to that interrogatory, we
18 have attached two reports dealing with indoor air
19 quality and one report dealing much more broadly with
20 environmental impacts of demand management options.

21 This latter report is a survey that was
22 completed for us in the summer of 1990 and it was a
23 literature search to establish the state of knowledge
24 and the state of the literature of the environmental
25 effects of the measures that demand management programs

1 use to identify positive and negative environmental
2 and, in some cases, social characteristics.

3 The report, I think, is quite
4 comprehensive, but as a consultant told us, the
5 literature is very sparse. Very little work has been
6 done in this area, outside of the area of indoor air
7 quality in North America to date.

8 Q. Are there any studies with respect to
9 the environmental characteristics of the demand
10 management options that Ontario Hydro is intending to
11 do but has not yet completed?

12 A. I don't have the list of such
13 projects, but you may have some knowledge of some.

14 MS. FRASER: A. Well, the report that
15 Mr. Wilson referred to covers both issues with respect
16 to programs that we have in place and some ones that we
17 don't, so

18 THE CHAIRMAN: Should we put that
19 interrogatory number on the list of 261?

20 It is in 265?

21 MS. COUBAN: I believe it is 265, yes.

22 THE CHAIRMAN: Okay, thanks.

23 MS. COUBAN: Q. Mr. Wilson, perhaps I
24 could get an undertaking from you to provide a list of
25 all the studies with respect to the environmental

1 characteristics of demand management options that
2 Ontario Hydro is putting forth as its complete study
3 with respect to the environmental characteristics of
4 demand management options, given that they are not --
5 obviously there has been a lot of work done since the
6 DSP and I am not sure if there is anywhere where all of
7 those studies which Ontario Hydro intends to rely on
8 are listed.

9 Would that --

10 THE CHAIRMAN: They are not listed in
11 this report, environmental impacts of demand management
12 options, which is attached to 4.32.13, which goes to
13 May 1990. You mean subsequent to May 1990 or?

14 MS. COUBAN: I was under the impression
15 from Mr. Wilson's response, and I could be wrong, that
16 there were other reports and that this was just one
17 example of the supplementary reports that Ontario Hydro
18 was relying on to explain the environmental
19 characteristics of the demand management option. I
20 could be wrong.

21 Q. Is this the only report in addition
22 to the DSP document that Ontario Hydro intends to rely
23 on for explaining the environmental characteristics of
24 the demand management plan?

25 MS. FRASER: A. In addition to the other

1 reports that were attached to the material you asked us
2 to look at today that Mr. Wilson mentioned, the indoor
3 air quality one, we have a draft final report of
4 development of design procedures and guidelines for the
5 air leakage control in the non-profit housing, and that
6 deals with the air quality issues in non-profit
7 housing. I am not aware of any other specific reports
8 that have been done.

9 Q. But I understand there are some in
10 progress as well; is that correct?

11 MR. WILSON: A. I am not aware of any
12 work that is in progress, but that is not to say some
13 is not underway at this time.

14 THE CHAIRMAN: Well --

15 MR. WILSON: We don't have a long-run
16 plan for research in demand management environmental
17 matters.

18 MS. COUBAN: Q. Okay. I just want to be
19 clear on this then.

20 Is it your evidence that the response to
21 Interrogatory 4.32.13 provides all the supplementary
22 information on environmental characteristics of the
23 demand management plan that Ontario Hydro is relying
24 on?

25 MS. FRASER: A. With the exception of

1 the other one I mentioned?

2 Q. Yes, I am sorry, with that one
3 exception.

4 A. Yes. That is all that we answered in
5 the interrogatory. That is all that we had and this
6 other one is just in draft stage, effective June 21st.

7 Q. Okay. And --

8 MR. B. CAMPBELL: I take it I can read
9 that question as being "in addition to the other
10 material on this matter that is already filed".

11 MS. COUBAN: Correct, yes.

12 MR. B. CAMPBELL: Thank you.

13 DR. CONNELL: I presume at some point
14 there will be some kind of balance sheet on fuel
15 switching if that hasn't already been anticipated.

16 MR. WILSON: That is a possibility, but
17 I, quite frankly, haven't even started to contemplate
18 that.

19 MS. COUBAN: Q. Ms. Fraser, I am not
20 sure if you told us yet - perhaps you did - about when
21 the date of availability of the report that is in
22 progress - what the date of availability of the report
23 that is in progress is?

24 MS. FRASER: A. I am not aware of the
25 date. The date on the draft final report is July 9th.

1 I am not close enough to the work plan with respect to
2 this particular project because I have been doing
3 preparations for hearings so I couldn't tell you. I
4 could check and find out if you wish.

5 THE CHAIRMAN: Perhaps we should have an
6 understanding that if, as and when this report becomes
7 a plan report, it will be filed. And implicit, of
8 course, is that if there ever is a report on the
9 environmental effects of the fuel switching program,
10 that that will also be filed.

11 MR. B. CAMPBELL: I have no difficulty
12 with either one of those propositions. That is fine.

13 THE CHAIRMAN: Well, we haven't had an
14 undertaking yet in this panel.

15 Should this be Undertaking No. 1?

16 Ms. Couban asked --

17 MR. B. CAMPBELL: I don't ever want an
18 Undertaking No. 1.

19 THE CHAIRMAN: I know you don't. Nobody
20 does. I mean, no party wants an undertaking that they
21 are responsible for, let's put it that way. (laughter)

22 Ms. Couban, do you want this enshrined in
23 an undertaking?

24 MS. COUBAN: That would be helpful, Mr.
25 Chairman.

1 THE CHAIRMAN: All right, we will put it
2 in an undertaking.

3 MR. B. CAMPBELL: Do we need an exhibit
4 number?

5 THE CHAIRMAN: No. I am sorry, you are
6 new to this procedure. In Panel 1 we perhaps didn't do
7 it, but it is like the interrogatories. We now have a
8 special exhibit with lists of undertakings on it.

9 MR. B. CAMPBELL: Yes, I understood that.
10 We need a number for that exhibit and this will be?

11 THE CHAIRMAN: 267.

12 MR. B. CAMPBELL: 267, and this will be
13 Undertaking No. 1 within that?

14 THE CHAIRMAN: Yes.

15 MR. B. CAMPBELL: Thank you.

16 ---UNDERTAKING NO. 267.1: Ontario Hydro undertakes to
17 provide a list of all the studies with
18 respect to the environmental
19 characteristics of demand management
20 options that Ontario Hydro is putting
21 forth as its complete study with respect
22 to the environmental characteristics of
23 demand management options.

24 MS. COUBAN: Q. Ms. Fraser, I believe,
25 you said that that report that you referred us to is
the only report that you are aware of that is in
progress.

MS. FRASER: A. Yes, that is true.

1 Q. Could we perhaps have an undertaking
2 for you to find out whether there are any other reports
3 that are in progress that you may not be aware of?

4 A. Well, as of June when we filed an
5 interrogatory, we scoured the branch pretty thoroughly.
6 I would be surprised if something crept up that hadn't
7 been in our business plans and whatnot, but

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1 [3:15 p.m.] Q. That is fine. I don't think I need
2 an undertaking for that. Thank you.

3 If we could turn to another page of
4 Exhibit 3, page 7-8, under the heading Social Impacts,
5 the second paragraph begins with the sentence, "Total
6 provincial employment is expected to be higher with the
7 introduction of major demand management programs."

8 Is there a study or some evaluation which
9 lead to that conclusion?

10 MR. BURKE: A. There was an earlier
11 study of demand management impacts -- sorry, employment
12 impacts associated with demand management programs, and
13 in fact, all of the individual options before -- being
14 included in demand/supply plans. That study was done
15 some time ago, it had the title, Ontario Economic
16 Impact of Hydro's Demand and Supply Options. I think
17 it's been filed in a number of interrogatory responses,
18 one of which is 4.7.196, and it generally indicates
19 that demand management options have a very high
20 positive impact on the Ontario economy relative to the
21 other options. Perhaps the only option that rivals it
22 is a nuclear plant construction and operation in
23 Ontario.

24 The essential features required to have a
25 high employment and economic impact of demand

1 management options are that the option have a high
2 Ontario content and that it be cost effective relative
3 to the alternatives; that is, it not push the price of
4 electricity up, or the cost of electricity, more to the
5 point, from the customer perspective up. Demand
6 management satisfies those characteristics very well,
7 although there probably are exceptions. It really does
8 depend on where some of these technologies come from.
9 In some cases if we have to import technologies and
10 there is a low installation cost associated with them,
11 then the employment impact could be quite low. But for
12 the most part, a lot of these measures have a fairly
13 high proportion of costs associated with installation.
14 The residential sector, it's typically 50 per cent -
15 maybe Ms. Mitchell will correct me on that - and the
16 items themselves to a significant extent are produced,
17 could be produced or are produced in Ontario. So, that
18 under those circumstances, we would expect the
19 employment impact to be at least as favourable as any
20 of the other options that we are considering.

21 MS. COUBAN: Mr. Chairman, perhaps we
22 should give that interrogatory an exhibit number since
23 it has been referred to.

24 THE CHAIRMAN: Number?

25 MS. COUBAN: I am not sure what the

1 number is?

2 MS. MORRISON: 15 of Exhibit 261.

3 THE CHAIRMAN: No. 15, and it's 4.7.196

4 ---EXHIBIT NO. 261.15: Interrogatory No. 4.7.196.

5 MS. COUBAN: Q. Now, Mr. Burke, I don't
6 have that interrogatory response before me. Could you
7 give me the date of that report?

8 MR. BURKE: A. It's May 1986.

9 Q. Has there ever been an update
10 prepared to that report to take into account changing
11 costs, particularly perhaps with respect to nuclear
12 option?

13 A. I am not aware of a report that's
14 been issued on employment impacts on this basis since
15 then.

16 What has happened since then is that
17 there has been analysis, and I am not sure whether this
18 analysis has ended up in reports, however, of various
19 plans and the economic impacts associated with plans.
20 That makes it a little more complicated to sort out
21 specifically what the demand management component
22 impact is, which is why I referred to the study that I
23 have.

24 I would have to check back to see whether
25 there is anything that specifically looks at the

1 comparison -- I gather you are interested in the
2 comparison of demand management specifically against
3 specific supply alternatives?

4 Q. That's correct.

5 A. I would have to check back to see if
6 we have updated the results since then.

7 I would think that the broad
8 characteristics of the issue as I have described them
9 still hold in that we are screening demand management
10 options against our current avoided costs, current
11 estimates of avoided costs. So that, to the extent
12 that we maintain demand management options, we continue
13 to implement economic demand management options, we
14 would satisfy the characteristics that pertained at the
15 time the study was done.

16 It really is a relative issue. You
17 cannot assess employment impacts or economic impacts
18 very well in some absolute sense. It's a relative
19 issue and I don't think those relativities have changed
20 too much.

21 Q. Perhaps we could get an undertaking,
22 though, for you to check on that.

23 THE CHAIRMAN: I take it you got as far
24 as "check".

25 MS. COUBAN: I'm sorry, I thought Mr.

1 Campbell was going to jump to his feet.

2 MR. B. CAMPBELL: I am sorely tempted to.

3 MS. COUBAN: Check to see whether there
4 has been an update if the figures in what is now
5 Interrogatory 4.7.196 comparing demand management to
6 the supply options.

7 MR. BURKE: It is my understanding that
8 there has not been an update of the study in the form,
9 like this, since then. But I can absolutely confirm
10 that and let you know after the break action, if that
11 would help us save some ink.

12 MS. COUBAN: I had believed that that's
13 what Mr. Burke was suggesting that he was going to
14 check, and I just want to put an undertaking.

15 THE CHAIRMAN: I don't want to cut you
16 off, but if we can economize on undertakings, that just
17 keeps the process... If he can tell you after the
18 break; if he can't, then we can do it that way.

19 MS. COUBAN: That is fine, Mr. Chairman,
20 Thank you.

21 Q. Keeping with Exhibit 3 and chapter 7,
22 we move on to page 7-9. In the second column, the
23 middle of that first paragraph, the quotation begins,
24 "In reality of course..." and if I could just read
25 that.

1 "In reality, of course, many
2 improvements that are technically
3 possible would be prohibitively expensive
4 or otherwise undesirable. For example,
5 while it might be technically possible to
6 collect all less efficient refrigerators
7 in Ontario and replace them with high
8 efficiency ones, the costs and other
9 disadvantages would clearly outweigh the
10 potential improvements in electrical
11 efficiency."

12 First of all, perhaps I should ask
13 whether that statement is based on the assumption that
14 Ontario Hydro is paying the total cost of replacement
15 of a refrigerator?

16 MR. WILSON: A. No, it is not.

17 Q. What is it based on?

18 A. It's based on the notion, in the same
19 sense as we have been discussing the total customer
20 cost test, it doesn't really matter who is paying for
21 the refrigerators; if you are going to junk thousands
22 and thousands of refrigerators that have useful lives
23 and replace them, and match that against what may be
24 marginal efficiency gains, the total customer cost test
25 would fail.

1 Q. I would like to explore the basis for
2 the statement that I have read. If we could turn to
3 Exhibit 265, which is the packet of interrogatories
4 that I have entered, and refer to the response to
5 Interrogatory 4.32.13. Do you have that, Mr. Wilson?

6 A. Yes, I do. I had something else with
7 the same numbers on it.

8 Q. I was looking at page 2 of the
9 response, under the heading, Impacts Resulting From
10 Disposal of Less Efficient Appliances.

11 The first statement, or the first
12 sentence says, "Hydro has not carried out quantitative
13 assessments of environmental impacts resulting from the
14 disposal of less efficient appliances."

15 In that context, the context of that
16 statement to the Response to Interrogatory 4.32.13, how
17 can the statement in Exhibit 3, page 7-9, be justified,
18 or on what basis is the statement on page 7-9 being
19 made given that Hydro has not carried out quantitative
20 assessments of environmental impacts resulting from the
21 disposal of less efficient appliances?

22 A. The statement on page 7-9 is not
23 discussing environmental impacts. It's made from the
24 perspective of economic efficiency.

25 Q. True. But it discusses the costs and

1 other disadvantages, and if we one takes one of other
2 disadvantages as being environmental, negative
3 environmental effects.

4 A. Cost took care of that issue
5 entirely, in my mind at least.

6 I would think that there would be
7 environmental disadvantages as well and would simply
8 add to the case that's already made with the economic
9 judgment.

10 We haven't done a detailed analysis of
11 something which we think it would be foolish to do.

12 Q. So, what are some of the other
13 disadvantages other than cost of such an approach?

14 A. Well, on page 2 of the Response to
15 Interrogatory 4.32.13, we have listed, for
16 refrigerators, three kinds of environmental materials
17 that would be of concern. PCBs in capacitors in some
18 refrigerators, the refrigerants in the piping or
19 plumbing of the refrigerator, and the foam insulation
20 that insulates the walls of the refrigerator, basically
21 would either be released to the environment if we
22 prematurely disposed of all these things, or other else
23 some measures would have to be taken to recapture
24 them in some fashion.

25 Q. Those are negative environmental

1 impacts?

2 A. They are negative environmental
3 impacts.

4 Q. I am wondering what are the
5 disadvantages other than negative environmental
6 impacts.

7 A. Well, I think we are discussing hear
8 the perspective of what is technically possible. And I
9 have to admit that it was probably my pen on the page
10 when this paragraph was written, so I am the right
11 person to answer it.

12 We made the observation just above the
13 sentence that you quoted, it says:

14 "Technical potential is the reduction
15 in electrical demand that could be
16 achieved by a given year if all
17 technically possible improvements were
18 made throughout the province without
19 regard for cost..." and clearly we
20 aren't concerned about cost. "...or
21 people's preferences."

22 Now, come back to the refrigerator
23 example. I have 5-year old refrigerator in my house
24 and I would take umbrage with anyone who insisted on
25 coming into my house and removing it, despite my

1 preferences, just because they thought they were
2 accomplishing some efficiency objective. I would
3 imagine everyone else in the room would feel the same
4 way about their lighting, about the insulation, about
5 the windows in their houses, the kinds of computers
6 that are on their desks. They would be irate.

7 For that reason, technical potential in
8 this sense is kind of a silly idea. It's not really
9 very helpful in sizing up what is possible in the
10 future. So, those are the kinds of disadvantages that
11 I saw. There are environmental ones, there is personal
12 preference, invasion of privacy, that reduce this
13 question of technical potential to an irrelevant
14 concept.

15 DR. CONNELL: Would it be fair to include
16 opportunity costs among your list of disadvantages,
17 too, in the sense that if this is perceived to be a
18 marginal or even disadvantageous activity, you might be
19 committing your intellect and resources to other more
20 worthy targets?

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25 ...

1 [3:30 p.m.] MR. WILSON: Yes, absolutely. Certainly.
2 There are many other things other than energy
3 efficiency which matter in the world and higher
4 purposes to which resources can be put.

5 MS. COUBAN: Mr. Chairman, did you want
6 to take the afternoon break?

7 THE CHAIRMAN: Fine. We will break for
8 fifteen minutes.

9 ---Recess at 3:30 p.m.

10 ---On resuming at 3:49 p.m.

11 THE CHAIRMAN: Please be seated.

12 MS. COUBAN: Mr. Chairman, perhaps I
13 should advise the Board that I don't anticipate
14 finishing this afternoon.

15 THE CHAIRMAN: When do you anticipate
16 finishing? (laughter).

17 I am not trying to rush you. Please
18 understand that.

19 MS. COUBAN: I would imagine I should be
20 finished in the morning on Monday.

21 THE CHAIRMAN: And you will be ready to
22 follow next, Mr. Poch?

23 MR. D. POCH: I will.

24 THE CHAIRMAN: And I understand you have
25 already given an estimate to Ms. Morrison that it will

1 probably take the substantial part of next week; is
2 that right?

3 MR. D. POCH: In all likelihood it will
4 fill out the week.

5 THE CHAIRMAN: Well, we will deal with
6 that on a day-by-day basis, but.... (laughter)

7 MR. D. POCH: I am sure you will, Mr.
8 Chairman.

9 THE CHAIRMAN: All right. Now did Mr.
10 Burke give you the answer to that question that was --

11 MS. COUBAN: No, but I understand he is
12 in a position to do so.

13 MR. BURKE: Yes, I have confirmed that no
14 study that compares options against options has been
15 done since the one that is on the record. All of the
16 subsequent studies have been done on a plan basis.

17 However, actually very recently, Mr.
18 Wilson requested an analysis that is in draft form at
19 this stage, it's just a note from someone in my
20 division to Mr. Wilson on a case that looks at -- on an
21 analysis that looks at Case 15 with and without demand
22 management, so you don't get a strict comparison of
23 demand management to particular options; you get a
24 comparison of the blend of options, supply options, and
25 demand options in Case 15 with that and without.

1 However, that memo has not been finalized
2 yet and I would hesitate to submit it at this time, but
3 we probably could arrange, just as with other things,
4 that when it is final that we will submit that to you.
5 I can tell you that the results as they stand indicate
6 directionally the same sorts of conclusions that I had
7 indicated to you before.

8 MS. COUBAN: Thank you. I think that we
9 can deal with that, Mr. Chairman, outside of the
10 context of this hearing. We can write to Ontario
11 Hydro.

12 THE CHAIRMAN: Thank you, Ms. Couban.

13 MS. COUBAN: Thank you.

14 Q. Mr. Wilson, if we can come back to
15 this example of replacement of refrigerators. And we
16 have discussed some of the concerns, we have talked
17 about some of the negatives of replacement of
18 inefficient refrigerators, and you have agreed that
19 there are some environmental concerns related to such a
20 program. Is that correct?

21 MR. WILSON: A. Yes, there are.

22 Q. Would you agree, Mr. Wilson, that a
23 co-ordinated collection program of fridges would give
24 rise to the possibility of a co-ordinated waste
25 management approach to those appliances, such as for

1 example with respect to the extraction of CFCs, the
2 extraction of copper wire for example from the motors,
3 that such a co-ordinated approach would be one means of
4 dealing with the negative environmental impact
5 identified of increased municipal solid waste as a
6 result of a collection of these inefficient
7 refrigerators?

8 A. Yes, I would agree.

9 Q. With respect to the actual appliance
10 itself, as an appliance nears the end of its useful
11 life, I take it you would agree that it would become
12 more and more inefficient; is that correct? Generally
13 speaking.

14 A. I simply don't know. It doesn't seem
15 reasonable to me that that would be the case.

16 Q. It does seem reasonable?

17 A. It does not seem reasonable. It is
18 quite possibly more and more inefficient compared to
19 what is then available on the market. The longer you
20 wait the better the market will be.

21 Q. So you wouldn't agree that--

22 A. I just don't know.

23 Q. --things would to deteriorate with
24 respect to the efficiency of the refrigerator the
25 closer it came to the end of its useful life?

1 MR. BURKE: A. I would just like to make
2 a comment here. The efficiency itself, whether it
3 actually deteriorates because of the seals and the
4 motors and that sort of thing, I think that is what Mr.
5 Wilson is not sure about.

6 But it is certainly the case that the use
7 of electricity by those refrigerators tends to be
8 typically lower than the use in new models when
9 purchased because, in fact, they are quite different
10 from new refrigerators, so that simply replacing all
11 existing refrigerators in Ontario with new
12 refrigerators, unless they were extremely efficient
13 models that we were putting forward, might have the
14 effect actually of increasing refrigerator load.

15 Q. If we could move on to another area.
16 And I would like to direct these questions to you, Mr.
17 Harper.

18 With respect to the accounting treatment
19 of demand management expenditures, isn't it true that
20 Ontario Hydro capitalizes expenditures for supply
21 projects over several years usually through rates over
22 the life of the project once it comes into service?
23 Would you agree with that? I'm sorry. Is this more
24 appropriately directed to Mr. Wilson?

25 MR. WILSON: A. It is difficult to guess

1 who is going to be the person who will answer it.

2 Yes, that's correct.

3 Q. Isn't it also true that Ontario Hydro
4 has, at least until recently, expensed the majority of
5 their demand management programs, which I understand
6 means the expenditures are directly recovered through
7 rates in the year in which they are made. Is that
8 correct?

9 A. No. It is true partially. The
10 expenditures on program design and program delivery
11 were expensed up until this year, 1991, so that was
12 really 1989 and 1990.

13 The incentives that were paid to
14 customers, which were cash payments or I think possibly
15 the equivalent in buy-downs for low interest or zero
16 interest loans, were capitalized and expensed over five
17 years. That's no longer the case.

18 Q. No, I understand. I understand that
19 Ontario Hydro is expecting to capitalize about 60 per
20 cent of those demand management expenditures that you
21 have referred to in 1991 and the next few years; is
22 that correct?

23 A. I would have to check that. I am not
24 certain.

25 Q. Assuming that that is what Ontario

1 Hydro is going to do --

2 A. We can assume that.

3 Q. Do you know how Ontario Hydro decided
4 upon the 60 per cent figure?

5 A. Well, again it's hypothetical because
6 I am not confident that that is the correct answer.
7 But it wouldn't be a matter of deciding in advance on
8 some proportion.

9 And I think as I answered earlier today,
10 where we can identify some expenditures being
11 specifically related to gaining some benefit in terms
12 of load reduction, some technology, and some payments
13 to customers, whether it would be program design,
14 program delivery or the actual incentive payment, our
15 share of the cost of the incremental -- of the energy
16 efficient goods, then we are going to capitalize that
17 and we are capitalizing it starting this year.

18 THE CHAIRMAN: Just help me to clarify.

19 Program costs have been referred to by
20 various of you. Are program costs the sum of design
21 costs, delivery costs, and incentive costs? Or are
22 they something else?

23 MR. WILSON: Am I correct in saying this?

24 MS. FRASER: Design, development, and
25 delivery. There are implementation costs as well.

1 THE CHAIRMAN: Implementation?

2 MS. FRASER: Yes, in terms of the
3 advertising to support the program and the field staff
4 to carry the program to the customers. Currently our
5 intention is not to -- currently our practice is not to
6 capitalize the field staff costs because you can't sort
7 of isolate program-specific activities from general
8 support activities because when someone is talking to a
9 customer they may be talking about a number of
10 different programs or helping them understand their
11 bill or doing a number of service things, so at this
12 point they haven't differentiated those costs. But the
13 other ones that Mr. Wilson talked about will be
14 capitalized.

15 THE CHAIRMAN: And the ones that will be
16 capitalized will be the ones that will go into the
17 total customer cost calculation?

18 MR. WILSON: All of the costs that are
19 incurred go into that calculation.

20 THE CHAIRMAN: Including the costs that
21 are expensed?

22 MR. WILSON: Yes, because all we are
23 trying to figure out is what does it cost to get a
24 demand management outcome. A question of how it's
25 treated in accounting is not relevant to that

1 consideration.

2 THE CHAIRMAN: Just to complete it. The
3 costs that you formerly capitalized, you did over a
4 five-year period and now you are going to capitalize
5 some more costs. And over what period will you
6 capitalize them?

7 MR. WILSON: We will expense them over a
8 period which depending on the program matches the
9 useful life of the energy efficient goods.

10 In the case of an R2000 house, I am not
11 sure what the answer will be but it could well be 30
12 years or more. In the case of compact fluorescent
13 lights it might be over five years, so it will have to
14 vary depending on if we have a large enough body of
15 costs to try and keep track of that in detail. But it
16 will vary to reflect the benefits created.

17 THE CHAIRMAN: Sorry, Ms. Couban.

18 MS. COUBAN: That's fine, Mr. Chairman.

19 DR. CONNELL: Could I just ask one more
20 question. I think this goes back to an issue which
21 came up in Panel 3; that is, when evaluating under the
22 total customer cost test, you are presumably making an
23 assumption about the effective life span of the new
24 equipment. Is that assumption in the total customer
25 cost test going to be the same as the accounting

1 practice or are those two totally different
2 considerations? Will they be synchronized?

3 MR. WILSON: I would like to see the two
4 have a strong relationship with each other. It doesn't
5 make sense to amortize something over 20 years when the
6 goods only last two years. Or vice versa.

7 MS. COUBAN: Q. So, just to confirm or
8 to clarify a point, I take it that the amortization
9 period is not related to the service life of a
10 particular demand management program?

11 MR. B. CAMPBELL: Didn't the witness just
12 say exactly the opposite, Mr. Chairman.

13 THE CHAIRMAN: He expressed it as a
14 desire that he would like to see. Now we are going to
15 find out, I think, actually if there is any difference.

16 MR. WILSON: Ms. Couban, in 1988 and
17 1990, all the costs that were capitalized, which are
18 just the incentives, were expensed over five years.
19 This year they are being expensed over ten years, all
20 of them. This fall we are launching the process of
21 being much more discerning as to which costs should be
22 amortized over shorter periods or longer periods.

23 To date there really hasn't been enough
24 money involved for the amortization question to make a
25 material difference to the cost of electricity or

1 electricity pricing in Ontario. But there is enough
2 money now starting to flow into demand management that
3 this deserves much more detailed intention and it is
4 going to get it.

5 MS. COUBAN: Q. But does the 5-year
6 period and the 10-year period, does that relate to the
7 service life of the demand management program?

8 MR. WILSON: A. Well, if the 5 years and
9 10 years apply equally to compact fluorescent light
10 bulbs and R2000 houses, so I would have to say it bears
11 very little relationship to the service life at the
12 moment, and I have pointed out it has not been a
13 material consideration. In the future it will be.

14 Q. Thank you. If I could move on to
15 Exhibits 257 and 258. And beginning with Exhibit 257
16 on page 1. In the third paragraph on that page, the
17 third full sentence begins "Fuel switching is
18 defined.... And to read that sentence, it states:

19 Fuel switching is defined as supplying
20 the same energy needs to the customers by
21 fuels other than electricity where it is
22 economic to convert.

23

24

...

25

1 [4:03 p.m.] In this report, only natural gas was used
2 in the analysis as a substitute fuel for electricity in
3 the applicable segments.

4 And in the next paragraph, the last
5 sentence states:

6 Were oil and propane to be considered
7 as options for fuel switching in the
8 residential sector, the fuel switching
9 potential would almost double because gas
10 availability constrains the analysis to
11 about 50 per cent of the eligible market
12 in the residential sector.

13 Why was natural gas the only substitute
14 fuel for electricity used in this report?

15 MR. BURKE: A. It was our understanding
16 that the Ministry of Energy's intentions with respect
17 to fuel switching pertained only to natural gas. And,
18 in fact, I believe Hydro asked questions of the
19 Ministry concerning whether we should be going beyond
20 natural gas to oil and other fuels in a letter from the
21 Chairman to Mr. Davies in late June. We, I do not
22 believe, have a response to that yet.

23 As I indicated in my direct, we are
24 seeking direction from the government whether they wish
25 to apply fuel switching to fuels other than natural

1 gas, but to be helpful in this analysis, we did
2 indicate roughly speaking what you would get if you did
3 extend it across the province.

4 Q. And you considered in this report
5 what could have been achieved were oil and propane to
6 be considered as options for fuel switching.

7 Were other alternatives considered as
8 well such as solar or wind?

9 A. As you indicated in the portion that
10 you quoted, that fuel switching meant where it is
11 economic to convert, and we have assumed that we would
12 choose the most economic fuels where they are
13 available.

14 And essentially, without having done a
15 detailed analysis of the oil and the other fuel options
16 because again, we didn't know whether that was the
17 intention of the Ministry of Energy, it is unlikely
18 that solar or wind would emerge as more economic than
19 those fuels and, therefore, would not play a role in
20 this particular exercise.

21 MS. COUBAN: If I could just have a
22 moment, Mr. Chairman.

23 Q. If I could now refer to Exhibit 249.
24 As I indicated earlier, I only am going to be referring
25 to the insert in that exhibit.

1 THE CHAIRMAN: I am sorry, did you say
2 249?

3 MS. COUBAN: I am sorry, 264. If I said
4 249, it was wrong, sorry.

5 Q. On that update if we could look at
6 the heading "hot water table".

7 Now, I am not sure who these questions
8 should be appropriately directed to.

9 MR. WILSON: A. If you ask the question,
10 we will do our best.

11 Q. Okay. We are looking at the columns
12 under the title "hot water table", which compares the
13 approximate annual energy cost of using different forms
14 of fuel and we see the comparison between gas,
15 electricity and oil.

16 Now, would you agree that this table
17 suggests that oil is more economic in all types of
18 households - and the types of households are listed on
19 the left-hand column of that table? And would you
20 agree that this table suggests oil is more economic in
21 all types of households than is electricity?

22 MR. BURKE: A. No, I would not. This
23 table does not illustrate that. All this table
24 illustrates is that the operating costs in the current
25 year are cheaper for oil than electricity.

1 In analyzing whether something is
2 economic to convert, Hydro looks at the total customer
3 cost over the life of the measure, as we have been
4 discussing, and water heaters have a life of at least
5 15 years.

6 And so, one would need to have a
7 projection of the costs of oil, electricity and gas and
8 the capital cost of the conversion in order to be able
9 to answer the question that you are asking.

10 Q. Has the total customer cost test been
11 applied in this context?

12 A. To gas, yes.

13 Q. How about with respect to oil?

14 A. My sense is that there is enough room
15 in the analysis for those eligible markets that I
16 indicated for the extra cost of oil relative to gas for
17 the result to show that oil would be economic.

18 And that is why in the cases that we have
19 indicated here we have suggested that were oil to be
20 included as an option in the residential space and
21 water heating area, it would double the potential; in
22 that sense why we haven't done the analysis explicitly,
23 those examples suggest that there is enough room to
24 move.

25 We would be working also with avoided

1 costs, we have proxied it with prices. I think it gets
2 to be more and more difficult in the matter of oil how
3 you work with the avoided cost of oil.

4 But nonetheless, we were happy enough to
5 assume that the price of oil was not sufficiently
6 higher than the price of gas in the long-term that it
7 would invalidate the total customer cost test results
8 in the eligible markets we have identified.

9 We would have to confirm that though. It
10 could be that when we do a finer analysis, some of the
11 eligible segments may not be as attractive as we
12 thought. And again, it very much does depend on the
13 price of oil you are using in your forecast or an
14 avoided cost number for oil.

15 Q. I take it that your response would be
16 the same if we look at the home heating example in the
17 tables with respect to home heating which are next to
18 the hot water table; is that correct?

19 A. That's correct. These tables really
20 only tell you what your bills are today.

21 Q. Just a point of clarification: I
22 believe, Mr. Burke, you said that solar and wind may
23 not be economic when compared to gas.

24 But is it not more relevant to consider
25 whether solar and wind are economic when compared to

1 electricity for fuel switching purposes?

2 A. No. The real alternative is whether
3 they are more or less economic. I think you were
4 asking in the non-gas areas so I was talking about oil.

5 It really matters whether you would
6 economically advise someone to convert from electricity
7 to oil or electricity to solar, and the relevant issue
8 will then be is solar more expensive than oil?

9 MR. SHALABY: A. On that, maybe it is
10 worth noting in your own exhibit, 264, page 26 - there
11 is a little paragraph about solar and water heating
12 there. I guess the exhibit itself does not compare the
13 costs of water heating by solar panels.

14 And the note says:

15 "Water can also be heated by solar
16 panels or by some efficient furnaces or
17 boilers with a special option. The cost
18 effectiveness of solar in specially
19 equipped furnaces and boilers is
20 improving but depends on conditions
21 specific to the individual home and its
22 location."

23 So, I am not sure when you say
24 improving -- does that mean it is not competitive and
25 getting there or competitive and getting better or

1 what?

2 The fact that it is not tabulated
3 together with gas, electric, oil and earth energy
4 systems gives me the impression that whoever drafted
5 this document is in agreement that solar water heating
6 is not competitive.

7 Q. Would it be fair to characterize
8 Exhibit 257 as having its primary focus on winter peak
9 demand as opposed to considering other areas, potential
10 areas, such as summer peak demand?

11 MR. BURKE: A. The answer is yes. And I
12 am fairly confident here that were we to try total
13 customer cost tests on the question of converting
14 summer air-conditioning load to gas air-conditioning
15 load, as I indicated in my direct evidence, that that
16 would not be economic given that as long as we remain a
17 winter peaking utility, the equipment costs of the gas
18 substitutes to electric air-conditioning can sometimes
19 offset any energy savings or cost savings through
20 energy.

21 And in general I would say that our
22 attitude has been that as we are forecasting to remain
23 a winter peaking utility for the duration of the plan,
24 that so far, any plan estimates that have been done
25 have that feature in them, that we have focused on

1 winter peak savings.

2 If that were to change, especially
3 through the combinations of all of these programs as
4 they mount up, we would have to reconsider whether that
5 emphasis on winter peaking was appropriate and we might
6 want to change that in some way.

7 Q. Moving on to page 7 of Exhibit 257,
8 specifically the Section 2.3 entitled "Industrial
9 Sector, the first sentence of that paragraph reads:

10 "Based on analysis of end-use data
11 provided by the load forecast department,
12 the industrial sector offers very
13 limited potential for fuel switching."

14 In fact, as table 9 on page 15 of this
15 exhibit indicates, the fuel switching potential for the
16 industrial sector has been characterized as zero; is
17 that correct?

18 A. Yes, and I believe the section you
19 are quoting from goes on to explain why.

20 Q. Okay.

21 A. That is on the top of page 8.

22 Q. Did Ontario Hydro consider looking at
23 the fuel switching potential of particular industrial
24 facilities rather than on industrial processes?

25 A. As we have described, even for the

1 efficiency improvement programs, we have not been able
2 to look at individual facilities yet across a broad
3 scale. We are doing audits and all that sort of thing,
4 but we have definitely not looked at site-specific
5 applications of fuel switching in the industrial
6 sector.

7 Q. Does Ontario Hydro have any plans to
8 consider such potential?

9 MS. FRASER: A. Yes. I believe our
10 industrial programs group is looking at that potential
11 to determine if it will be there, but basically, the
12 assumption has been made that if it has been economic
13 for an industrial plant to switch, they have done so.
14 And if an industrial plant is using electricity for a
15 particular process, such as induction heating, it is
16 because of the process advantages or the environmental
17 advantages that electricity gives them.

18 Q. Does Ontario Hydro have any plans to
19 work with, for example, AMPCO in order to more fully
20 explore the potential for fuel switching in the
21 industrial sector?

22 A. Not that I am aware of at this time,
23 but that may be one alternative that we would pursue.

24 Q. If I could move on to Exhibit 258.
25 On page 3 of Exhibit 258 there is a table entitled

1 "technologies eligible for standards". I am not sure
2 who can answer this question, but the question is: Was
3 this list of technologies eligible for standards
4 developed in consultation or with the advice of the
5 government?

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1 [4:18 p.m.] MR. BURKE: A. I don't believe it was.
2 I think that the people that developed this list were
3 aware of all the areas in which the government was
4 considering standards because they were in contact with
5 the government about the standards that were currently
6 under consideration. But I don't think we entered into
7 a blue sky operation with the government as to where
8 they would consider ultimately placing standards.

9 Q. If we could turn to table 5 of
10 Exhibit 258. As I understand this table, it compares
11 or it's a summary of the results of the five cases,
12 Case A to E, and it compares five scenarios for demand
13 management, including fuel switching and standards.

14 If we could begin by looking at the
15 column under the fuel switching title and the mandated
16 column. I presume that that column refers to
17 fuel-switching programs which are mandated by
18 government action; is that correct?

19 MR. WILSON: A. Yes, that's correct.

20 Q. Were any of the numbers in these
21 cases, Case A to E, or in the scenarios discussed with
22 government?

23 A. Not to my knowledge.

24 Q. Does Ontario Hydro have any plans to
25 discuss these scenarios with the government?

1 A. Absolutely. As I said in my direct
2 testimony, we explored in a rather short range of time
3 in July and early August what range of policy options
4 were open to government and to Ontario Hydro, and we
5 thought that these were feasible in the sense that they
6 could be done, and that somewhere in the mix of
7 mandation and programs we could find an accommodation
8 with government as to what could be done and a
9 timetable for doing it.

10 Q. With respect to electrical efficiency
11 improvements and the column headed Standards, I take it
12 that that column refers to what is achievable in terms
13 of electrical efficiency improvements through
14 government standards; is that correct?

15 A. Yes, that is correct.

16 Q. Were any of those numbers discussed
17 with the government?

18 A. Not in advance, no.

19 Q. I believe that you have described the
20 five scenarios as being, for example, that Case 2 is
21 like Case 1, or Case B is like Case A except for an
22 increased level of government intervention, and that
23 Case C is like Case B except for an increased level of
24 government intervention; is that correct?

25 A. Yes.

1 Q. So, in each scenario going from Case
2 A to Case E, we have a progressive role being played by
3 mandating and by government standards--

4 A. Yes, that's correct.

5 Q. --going from Case A having the least
6 and Case E having the most; is that correct?

7 A. Yes.

8 Q. Now, the program column, the two
9 program columns, under electrical efficiency
10 improvements, I take it that those figures represent
11 the contribution to demand management as a result of
12 Ontario Hydro's progress; is that correct?

13 A. Yes, that's correct.

14 Q. And if we total those two columns,
15 that is Ontario Hydro's entire efforts with respect to
16 demand management, there is a decrease from Case A to
17 Case E; is that correct?

18 A. Yes, that's correct.

19 Q. And we have the same with respect to
20 Ontario Hydro's programs with respect to fuel
21 switching, there is generally a decrease as we go from
22 Case A to Case E?

23 A. Yes. You may recall that on
24 Wednesday I took, I guess, almost an hour to describe
25 about, I guess it was, eight or nine different ways in

1 which Ontario Hydro was prepared to create the market
2 and create the situation that would lead to the
3 acceptability of these standards to support both
4 technically and financially the development of
5 standards, test methods, research aid to manufacturers,
6 retooling and so on. So that I couldn't characterize
7 this decline in numbers as really reflecting a
8 diminution of our contribution, but rather more
9 accurately what specifically would be accomplished
10 solely through the programs that Ontario Hydro had in
11 the field.

12 Q. But I assume that those figures with
13 respect to Ontario Hydro's efforts decrease because
14 some of the savings that could have been achieved as a
15 result of Ontario Hydro's programs are now being
16 achieved by government standards or government action.

17 A. Yes, that's right.

18 Q. So, these particular programs of
19 Ontario Hydro's achieve less because the government
20 action is achieving more; correct?

21 A. I think the perspective to look at is
22 perhaps the last column, where you see that as you move
23 from Case A through Case E, the total amount of energy
24 efficiency here of both fuel switching and electrical
25 efficiency improvements increases or almost doubles as

1 the government becomes more and more involved in
2 working with us to get results. We just don't know how
3 far the government is prepared to go.

4 We have had indication from government
5 that they are prepared to go a long way.

6 Mr. Franklin received a letter on
7 November 16th, 1990 from Mr. Elieson, Deputy Minister,
8 and in that he called for a working group between the
9 government and ourselves and pointed out under
10 regulation, and I quote:

11 That regulation under the Energy
12 Efficiency Act is a powerful tool to
13 assist consumers in becoming more energy
14 efficient. Hydro can play a greater role
15 in the development of standards and the
16 regulation, and we, in the Ministry, can
17 be proactive. Standards and regulation
18 may also capture a larger portion of the
19 economic potential for conservation that
20 is possible through programs alone.

21 I agree with that completely and that was
22 the basis for this development.

23 Q. I am not disagreeing with that
24 statement.

25 What I am trying to establish is that as

1 we have government action and government programs
2 increasing, we have a diminution in the efforts that
3 Ontario -- or what Ontario Hydro has to do in order to
4 achieve a certain level of demand management.

5 My question is: If we have this
6 increased mandating or action by the government,
7 doesn't that mean that Ontario Hydro itself has more
8 resources in terms of money and perhaps in terms of
9 staff that are freed up which they could then turn
10 around and devote to a number of areas, such as new
11 programs that are still not covered by government
12 standards, increasing penetration rates in ongoing
13 programs, and in developing new approaches. Why do
14 they have to be mutually exclusive?

15 A. I don't see them as mutually
16 exclusive.

17 Q. The scenarios suggest that, I would
18 put it to you. That is as government action and
19 government mandating increases, Ontario Hydro's efforts
20 decrease.

21 A. As mandation increases, Ontario
22 Hydro's programming effort focus on the efficiency
23 improvement opportunities that the standards don't
24 cover. In some of these cases as I described to you a
25 day or so ago, we made the assumption that the

1 standards are set to fill 50 per cent of the gap
2 between what is current and what is economic. That's
3 going halfway. That leaves the rest of the way for us
4 to struggle for. This is a game of diminishing
5 returns. We leave ourselves working on possibly the
6 most difficult part of the savings, and, of course,
7 that's just where the standards do apply.

8 Where the standards don't apply, and
9 there is a whole page of those on table 3 on page 4 of
10 this exhibit, we have assumed that there are no
11 standards in place in those areas and the full burden
12 of getting results falls on our shoulders.

13 Beyond that, we have all the program
14 responsibility between now and this assumed date of
15 1995 to press for all of the savings that are possible
16 until the regulations and codes were to come into
17 place.

18 So, I couldn't characterize these cases
19 as you go down the list as Ontario Hydro having more
20 and more money freed up to do new and interesting
21 things.

22 The things that we are planning to do are
23 within areas not covered by standards and to top up
24 whatever is established for standards now is our best
25 estimate of what we can do going flat out, and that's

1 the approach we have taken to date.

2 Q. Why then do we have the scenarios
3 going from Case A to Case E where Ontario Hydro's
4 efforts with respect to its own programs are reduced
5 while the government's efforts with respect to
6 mandating and standards increase? That is clearly what
7 this table states.

8 MR. BURKE: A. Maybe I could speak to
9 that for just a second.

10 The introduction of standards in areas
11 where they apply does not change the potential for
12 conservation in Ontario per se; it just changes the
13 penetration rate achieved in the areas where they are
14 applied.

15 It's not as if the introduction of
16 standards have suddenly created an additional pool of
17 EEI opportunities.

18 I think what you are implying is if we
19 were to spend more money somehow we could get a higher
20 penetration rate on that remaining pool of activities.

21 It is our submission that our original
22 estimates of what we would get by way of attainable EEI
23 in the areas now where standards are not going to apply
24 were a maximal estimate, and that is not changed by the
25 fact that the government increases the penetration rate

1 in areas where standards can be applied.

2 Q. You have identified that there is
3 10,200 megawatts of potential out there, but you are
4 telling us that Ontario Hydro believes that half of
5 that, 5,200 is achievable. I am asking, why, if
6 government action increases as the scenarios suggest
7 it's possible it increase, that Ontario Hydro's action
8 could not increase as well so that we could achieve
9 higher than the 5,200 megawatts which is presently
10 targeted as being achievable?

11 MR. B. CAMPBELL: Sorry, could I get Ms.
12 Couban to indicate where the 10,200 potential figure
13 that she is using comes from?

14 MR. BURKE: It was used in my overhead
15 yesterday and it includes options not on this table,
16 such as load shifting and discount demand service.

17 MR. B. CAMPBELL: So we are not referring
18 to this table at this point.

19 MS. COUBAN: No, I am sorry, I wasn't
20 referring to the table.

21 MR. BURKE: And those options, of course,
22 don't change with the introduction of this.

23 I think you might want to pursue this
24 with Ms. Fraser, but she certainly made the point quite
25 clearly yesterday that increasing the amount of money

1 you throw at particular market segments does not
2 necessarily guarantee that you are going to increase
3 penetration rates. And we have certainly always said
4 that if we can get more, we will get more.

5 But I think the issue is, is necessarily
6 freeing up the financial resources of Hydro because
7 some areas are handled by standards necessarily going
8 to mean that more money will buy us a higher
9 penetration rate in these others areas, and you maybe
10 should ask them whether that necessarily follows.

11 MS. COUBAN: Q. Ms. Fraser, does that
12 necessarily follow, in your view?

13 MS. FRASER: A. No, I don't think it is
14 just more money that makes the difference. It's
15 understanding the market, targeting, doing all those
16 things I talked about.

17 Q. But understanding the market, I take
18 it, would take funds, one would require funds to better
19 understand the market. Is that not one way of
20 overcoming that particular barrier, for example?

21 A. I am sorry, which particular barrier?

22 Q. You have just identified that there
23 are a number of other barriers other than just throwing
24 money at a demand management option in order to
25 increase the potential, and you identified that the

1 lack of information about the market as being a
2 potential barrier. I am asking whether the application
3 of funds to that particular problem would not go some
4 way to overcome that.

5 A. I haven't identified lack of
6 information about the market as a barrier to energy
7 efficiency.

8 I indicated that we have done an awful
9 lot of market research and we will continue to do
10 market research, and that's indicated in our
11 significant volume and the registry of customer
12 research.

13 I am sorry, maybe I'm not understanding
14 you.

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1 [4:35 p.m.] Q. No. I believe that there was just a
2 slight misunderstanding on the words. I was just
3 asking about the lack I believe that has been
4 identified, about the lack of, for example, consumer
5 awareness of certain products in the market. And my
6 suggestion was that by providing more funds to that
7 particular problem, it possibly could be overcome.

8 A. Our current plans include a
9 significant amount towards that. And as Mr. Burke
10 indicated, the amount that we were going after before
11 was the maximum amount we thought we could get. And we
12 have always said that we will go after -- and if we can
13 get more we will. That philosophy applies to this as
14 well.

15 However, when mandation or standards
16 starts taking up pieces of the potential, the amount
17 left for programs is much less and the parts that are
18 left are in some segments more difficult to get to and
19 more difficult to push the customer to that further
20 step of efficiency. And we will be certainly applying
21 all of our efforts and all of our work to make this
22 happen.

23 I might point out that in the column "End
24 Use Is Not Affected By Standards", Case B, C, D, and E,
25 in spite of the fact that standards and mandation take

1 a bigger and bigger chunk, we have left that the same
2 under all four scenarios, even though the market that
3 is left actually declines.

4 And really what you are looking at in
5 terms of the fuel switching between mandation and
6 programs is a decision about who pays for it, which is
7 definitely I think a Government decision, and it's a
8 decision about whether or not consumers are going to
9 have a choice.

10 In the nonprofit new construction example
11 that I talked about in my evidence in-chief, the
12 decision was made between, as I understand it, the
13 Ministry of Energy and the Ministry of Housing to ban
14 the use of electricity and space and water heating for
15 nonprofit housing where gas was available.

16 Now that reduces the -- in cases where we
17 were going to help nonprofit improve the efficiency
18 where they were using electricity, obviously any of the
19 targets that we had set there, we are now going to have
20 to look at getting some of those other places.

21 DR. CONNELL: Could I just understand.
22 The five cases, we don't have cost estimates of the
23 whole programs; you are not able to say what the cost
24 would be to Hydro of Case A, Case B, Case C?

25 MR. WILSON: No, we haven't done that

1 work yet.

2 DR. CONNELL: So the idea that Hydro
3 might have more money available if Case E were pursued
4 has not been established by your testimony?

5 MR. WILSON: I would expect our cash
6 outlays would probably be lower in Case E than they
7 would in Case A. I think that's perhaps.... But I am
8 speculating because I don't know for sure.

9 DR. CONNELL: Yes.

10 MR. WILSON: Now the notion that Hydro
11 would have more monies, I would just like to make a
12 comment on. Money that Hydro has is money it collects
13 from customers through its rates. And if we were
14 looking at Case E, we would probably be charging a
15 little less to our customers. There's no vast pool of
16 funds just waiting to be used for this. It is in the
17 pockets of our customers right now. Until we take it
18 out.

19 MR. BURKE: On that note, certainly it
20 really doesn't matter from Hydro's planning perspective
21 who achieves the savings and whether it costs money on
22 the part of either the Government or Ontario Hydro to
23 offer financial incentives to people to make the
24 savings or whether they happen through standards,
25 effectively what matters is that the savings occur and

1 that when they occur they are economic in some sense.

2 MS. COUBAN: Q. Ms. Fraser, you have
3 referred to the column "End Use Is Not Affected By
4 Standards". Now isn't it possible that by developing
5 or expanding new approaches, isn't it possible that the
6 end use is not affected by standards could increase?

7 MS. FRASER: A. Already in our
8 estimates, which the original estimates are really I
9 guess before -- that are included in the DS plan,
10 Exhibit 76, already assumed that we were exploring all
11 the new approaches that we could think of, all the new
12 approaches that we could glean from looking at U.S.
13 utilities, all the new approaches that we could, you
14 know, learn from trying different things,
15 community-based projects, direct installation, all
16 those sorts of things.

17 I outlined a whole list of different
18 elements of a program combining all those things and we
19 are basically dedicated to finding out the best way to
20 get as much as we can, if it's economic to do so.

21 Q. But that's based on your present
22 staff level and the present resources that are
23 dedicated to those approaches; correct?

24 A. It's based on our current estimate of
25 the resources it is going to take to deliver. Our

1 staff level is growing, our resources is growing. Mr.
2 Wilson gave some estimate of that order of magnitude of
3 the growth of our energy management branch funds.

4 Q. Isn't what you are really suggesting
5 is that Government standards have no upper limits in
6 savings but that Ontario Hydro actions have a firm
7 upper limit?

8 MR. BURKE: A. I think that's quite
9 right. You can regulate and achieve very high
10 penetration rates. And programs in practice have
11 limits. I guess the upper limit to the Government is a
12 hundred per cent penetration of the available market,
13 but....

14 MS. COUBAN: Mr. Chairman, I am leaving
15 this section. I am not sure how late you wanted to sit
16 today.

17 MR. B. CAMPBELL: Mr. Chairman, just
18 before this position is left, I have been a little
19 concerned about that last bit of cross-examination
20 because it seems to me that it's operating from a
21 premise that is quite different from the position that
22 the Government has taken in these proceedings.

23 And if they are going to change position
24 on it, it would certainly seem to me that that should
25 be clear in the premise in their questions. The

1 premise in their questions has been that this could be
2 done. It seems to me in Exhibit 249 and the comments
3 that were made in introducing it that the Government
4 took a position on what constituted an optimistic
5 scenario for demand management.

6 And if Ms. Couban in her questions is
7 suggesting that they are resiling from that view, I
8 think the panel has certainly prepared its evidence
9 based on that position and I think they are entitled to
10 know if the Government is resiling from that view.

11 MS. COUBAN: Mr. Chairman, firstly,
12 Exhibit 249 is only a draft report.

13 MR. B. CAMPBELL: Just a --

14 MS. COUBAN: And the Government's
15 position has not changed. I think it would be
16 inappropriate for me to make comments beyond stating
17 that and stating that Exhibit 249 is a draft report. I
18 think that this will clearly be covered when the
19 Government presents its direct evidence.

20 MR. B. CAMPBELL: Well, Mr. Chairman,
21 with respect, when that document was introduced it was
22 described first as a high conservation scenario.
23 That's the way it is described in Exhibit 249.

24 But the spokesperson for the Government,
25 Mr. Moran, when he introduced that, explicitly stated

1 that it was an optimistic view of what could be
2 achieved through conservation. And it includes, I
3 would advise you, in Exhibit 249, both fuel switching
4 considerations and efficiency considerations.

5 Now we relied on the way Mr. Moran
6 described this as being the Government's view of what
7 this represented. And if the Government does not
8 intend that this be viewed as what it is described as,
9 that is, a high conservation scenario, then I think
10 this panel is entitled to know it because they have
11 relied on it.

12 THE CHAIRMAN: Are you saying that Ms.
13 Couban can't explore the potential for demand
14 management by reference to the Hydro analysis and that
15 her questions are given the intervention of Government
16 standards, which takes up some of the program, why
17 isn't it possible to do better than you might have done
18 without the standards, that is, in the aggregate, and
19 what are the limitations? And she is exploring that
20 with this panel and whatever the Government policy may
21 be, why do you say that she can't do that?

22 MR. B. CAMPBELL: I am not indicating
23 that she can't, Mr. Chairman. I guess what I am
24 concerned about is whether this indicates a change in
25 position because all of those things: programs,

1 efficiency programs, fuel switching programs, fuel
2 switching, all of those things are considered in
3 Exhibit 249. And it was described by the Government in
4 introducing it in a certain way.

5 And I just couldn't help but reading into
6 the questions a sense that there is a view that the
7 numbers that are represented in 249 are something
8 different from the way they have been described in
9 introducing that exhibit to this panel.

10 And I think all I say is I have no
11 objection to the questions --

12 THE CHAIRMAN: You have lost me a bit.
13 249 is the Government's--

14 MR. B. CAMPBELL: Yes.

15 THE CHAIRMAN: --document that was put
16 out earlier. We are not looking at 249 right now. And
17 the Government's document, as I recall, states
18 objectives in broad terms and says "Maybe we can do it.
19 If we do it this way, we can achieve this result,
20 maybe --

21 MR. B. CAMPBELL: And it has a specific
22 high conservation -- it is based on a specific - page
23 35 - it has got a specific high conservation scenario
24 that is described as including fuel switching, greater
25 programs, all of those things.

1 My concern is that this panel has
2 prepared itself based on an understanding from the
3 Government, because it was presented to you that way,
4 that that was an optimistic view of what could be
5 achieved. That's the way it was described to you, sir,
6 when it was introduced.

7 THE CHAIRMAN: That may be. But I am not
8 sure why that should be a basis -- and perhaps I am
9 trying to understand your position. The position of
10 your client, as I understand it, is we are going to do
11 the best possible that can be done in the way of demand
12 management; if we can do more, we will.

13 And all Ms. Couban is doing, as I
14 understand, is that she - and there has been an
15 analysis in this document 258 - and all she is doing is
16 exploring that with them.

17 She is also - this is maybe not pertinent
18 to what we are discussing - she has a number of
19 clients, 47 or something she told us at one point --

20 MS. COUBAN: Eighteen, Mr. Chairman.

21 THE CHAIRMAN: Pardon?

22 MS. COUBAN: Eighteen.

23 THE CHAIRMAN: Eighteen? Maybe I tend to
24 exaggerate.

25 So I just don't at the moment quite

1 understand what your objection is. You certainly are
2 entitled to know what Government policy is from time to
3 time and she has undertaken and has been diligent up to
4 this point in from time to time coming in with new
5 Government initiatives. And what more can she really
6 do than that?

7 MR. B. CAMPBELL: As I say, my simple
8 concern - and that's why I didn't object to the
9 questions as we were going through - is that if there
10 has been some view, some different position taken by
11 the Government with respect to what Exhibit 249
12 represents, my simple concern was that that view has
13 been relied on by this panel and if there has been a
14 change of position, which it sounds a little different
15 coming out from Ms. Couban's mouth than it did when the
16 exhibit was introduced, then I believe the panel ought
17 to be entitled to know that.

18 MS. COUBAN: Mr. Chairman, if I could
19 just make one comment. When that document, Exhibit
20 249, was introduced, it was introduced as being part of
21 the Government's ongoing policy formulation. It was
22 not introduced as a firm indication of Government
23 policy. And if Mr. Moran or I have ever misled Ontario
24 Hydro in that regard, that was not our intention. I
25 believe we were quite clear on the record that that was

1 a discussion paper, part of Government's ongoing policy
2 formulation.

3 MR. B. CAMPBELL: And all I am saying is
4 that it was described to this Board - and I don't care
5 whether it is Government policy; that is not the
6 pertinent question in my submission - it was described
7 to this Board by counsel for the Government as being an
8 optimistic view of what could be achieved by way of
9 energy conservation. That's the way it was described
10 to you. If that's wrong, correct it. That's the way
11 it was described to you.

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1 [4:49 p.m.] MS. COUBAN: Mr. Chairman, I believe Mr.
2 Moran made that comment and if you will allow him just
3 to clarify that statement, if that is appropriate or
4 necessary, if you would like.

5 THE CHAIRMAN: I don't think it is
6 necessary.

7 MS. COUBAN: Okay.

8 MR. CHAIRMAN: Would you like to proceed
9 with your cross-examination?

10 MS. COUBAN: Certainly.

11 THE CHAIRMAN: And we can go until five
12 o'clock just to keep the process consistent.

13 MS. COUBAN: Okay.

14 MR. WILSON: Ms. Couban, just before you
15 move on --

16 THE CHAIRMAN: I haven't given this
17 admonition to this panel before, but I think I will:
18 You don't have to do anything more than answer the
19 questions that you are asked, but you must answer the
20 questions you are asked and then, if you wish,
21 volunteer anything else. So, that is fine subject to
22 the possibility of objections or someone telling you
23 that you shouldn't be doing that. (laughter)

24 MR. B. CAMPBELL: I hope they paid more
25 attention to you on this matter than they do to me.

1 MR. WILSON: Thank you, Mr. Chairman.

2 (laughter)

3 The only point I wanted to make is that
4 because we didn't know specifically what government
5 policy is in the area of the use of standards and codes
6 and regulations - we had an indication of direction but
7 nothing in operational terms - we were left in a
8 position of having to speculate as to what could be
9 accomplished working jointly with government, and that
10 was the basis for the development of these five cases.

11 Now, I would volunteer that we have yet
12 to accomplish the penetration rates that are assumed in
13 table 5 for any of these cases in the 2-1/2 years that
14 we have been involved in this demand management effort.

15 We are clearly extrapolating what can be
16 accomplished. We are optimistic and proud of ourselves
17 in what we can do and have set fairly lofty goals for
18 what we are going to try to accomplish.

19 We could quibble, and I think perhaps we
20 have been doing so, about whether or not some relief of
21 responsibility for some parts of the market could lead
22 to even more clever approaches to marketing and more
23 innovative technologies. I guess it is our view that
24 that is just quibbling because we think this is a gang
25 buster's approach to the marketplace and we are going

1 to do our very best. We might be able to do better,
2 but right now we don't know how. Thank you.

3 MS. COUBAN: Q. Thank you. If I could
4 move on to Exhibit 265, the package of interrogatory
5 responses that I have entered this morning, and dealing
6 still with Interrogatory Response 4.32.13. Appended to
7 that report, and it has already been referred to, is a
8 study entitled, "Environmental Impacts of Demand
9 Management Options".

10 As I note on page I, page 1 of the
11 executive summary, the third paragraph begins with the
12 statement that this study is primarily a literature
13 survey.

14 Then if we go on to page 3 of the main
15 report, under the heading "1.3 Approach", in the second
16 paragraph, the third sentence, it states:

17 "The atmospheric emissions and other
18 environmental impacts of electricity
19 generation avoided through implementation
20 of the demand management measures are not
21 considered in this study."

22 Is there anywhere in the environmental
23 analysis document in Exhibit 4 where those impacts are
24 dealt with?

25 MR. SHALABY: A. Not on this Exhibit 4,

1 no.

2 Q. Is there anywhere in any of the
3 documents where that is --

4 A. Yes. There has been a study of the
5 avoided emissions and other supply side impacts if
6 Ontario Hydro did not implement demand management.

7 That would be a case - for example, Case
8 15 - when you take out demand management and you put
9 instead of that supply - combustion turbines, coal
10 generation, nuclear generation - and you see the
11 difference in air emissions, radionuclides and other
12 supply option impacts and you quantify that.

13 That has been done and I think it has
14 been submitted in answer to interrogatories. I don't
15 know exactly what interrogatory numbers but I can find
16 out.

17 MR. WILSON: A. That report was attached
18 to Interrogatory 4.32.9 and a number of others as well.

19 MS. COUBAN: Okay. Perhaps we should
20 give that an exhibit number, Mr. Chairman?

21 THE CHAIRMAN: Do we have that number?

22 MS. COUBAN: I don't believe we do.

23 MR. B. CAMPBELL: 4.32.9. So that is a
24 government interrogatory?

25 THE CHAIRMAN: Yes. Okay. I don't

1 believe it has been referred to.

2 THE CHAIRMAN: Give it the next number.

3 What will that be?

4 MS. MORRISON: 16.

5 MS. PATTERSON: 261.16.

6 THE CHAIRMAN: 16, is that right?

7 MS. MORRISON: Yes.

8 THE CHAIRMAN: 261.16.

9 ---EXHIBIT NO. 261.16: Interrogatory No. 4.32.9.

10 MS. COUBAN: Thank you.

11 MR. B. CAMPBELL: Ms. Couban should
12 already have a copy, I think, of that study and we have
13 given it out, I know, on a number of other
14 interrogatories. If there are people who need copies
15 if they would see me, I will make sure they get it.

16 THE CHAIRMAN: Perhaps it might be a good
17 time to stop.

18 MR. D. POCH: Mr. Chairman, I can advise
19 everybody in the materials I will be filing on Monday
20 that particular study is included, so I can save
21 everybody some xeroxing.

22 THE CHAIRMAN: All right. Thank you, Mr.
23 Poch.

24 We are now ready to adjourn until Monday.
25 Does anyone before we leave have anything further they

1 want to say?

2 MR. GREENSPOON: Yes, I do.

3 THE CHAIRMAN: All right, Mr. Greenspoon.

4 I would be disappointed.

5 MR. GREENSPOON: Since we still have five
6 minutes. Apropos to our conversation earlier about who
7 makes the decision about amending, I just wanted to
8 point out to the panel Section 7(3) of the
9 Environmental Assessment Act, which seems to say to me
10 that only the Minister can amend the undertaking once
11 it has been submitted, not Ontario Hydro, not the
12 Proponent.

13 So, we will argue that at another time,
14 but I did look it up. That is in that statute, Section
15 7.

16 THE CHAIRMAN: So, you are giving notice
17 anyway of one of the points of argument, I guess I can
18 put it that way.

19 MR. GREENSPOON: Thank you.

20 MR. B. CAMPBELL: And, of course, we
21 would take the position that that is far from the only
22 relevant section to this matter.

23 THE CHAIRMAN: We will adjourn until next
24 Monday, which is the 26th of August at ten o'clock.

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1 ---Whereupon the hearing was adjourned at 4:57 p.m., to
2 be reconvened on Monday, the 26th day of August,
1991, at 10:00 a.m.



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